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ABSTRACT

Oklahoma curriculum objectives for kindergarten through 12th grade present skills for the core and integrated curriculum areas and methods to assess student achievement. An overview of developmentally appropriate programs for kindergarten precedes objectives for social skills, creative skills, language arts skills, mathematics skills, motor skills, science, and social studies by the end of kindergarten. The core curriculum section provides objectives for 1st through 12th grade in the areas of language arts, mathematics, science, social studies, the arts, and second languages. The integrated curriculum sections describe objectives for grades 1 through 12 in the areas of instructional technology, health, safety, and physical education, technology education, and information skills. The student assessment section explains assessment information and timelines for norm-referenced tests, criterion-referenced tests, and literacy passport tests. The priority academic student skills to be assessed by criterion-referenced tests include reading, writing, mathematics, science, social studies, and the arts. A glossary of terms concludes the document. (CK)

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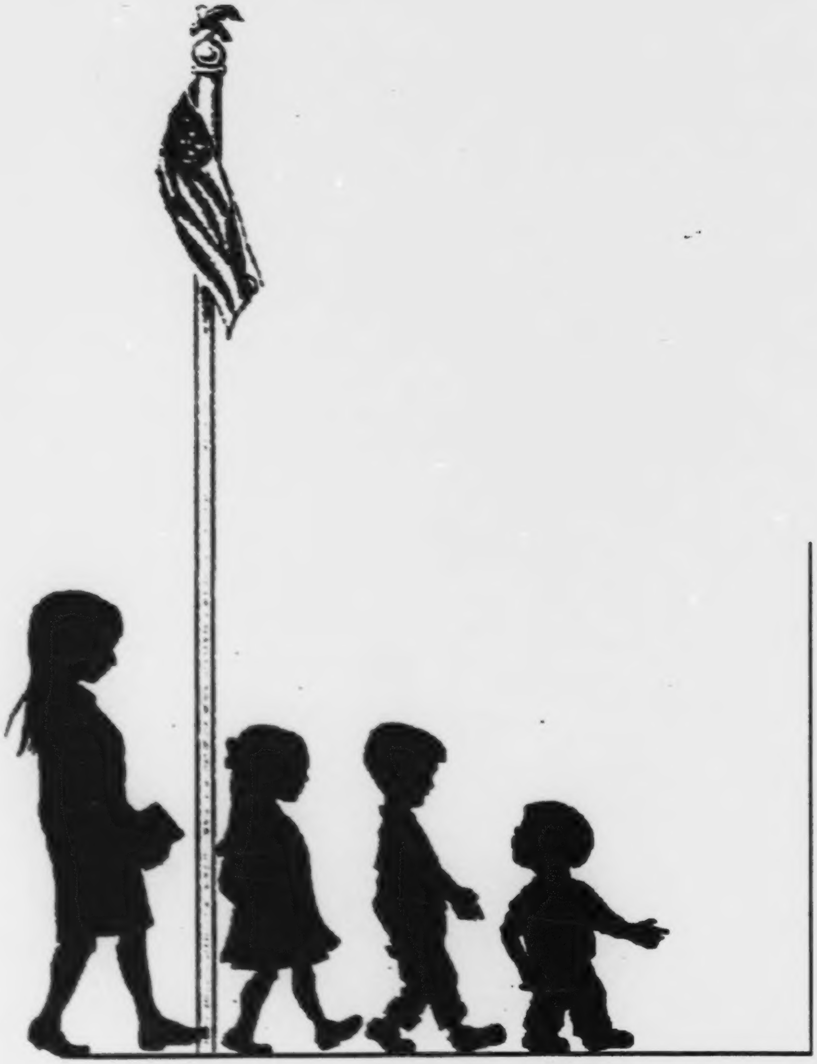

A Core Curriculum For Our Children's Future

Priority Academic Student Skills

Sandy Garrett, State Superintendent of Public Instruction
Oklahoma State Department of Education

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Kindergarten

KINDERGARTEN

OVERVIEW

Kindergarten programs are to be developmentally appropriate. Teaching is based on the knowledge of how young children develop and learn. The learning environment fosters all areas of development: physical, social, cognitive and creative; and provides the challenge for children to learn according to their individual growth patterns.

Developmentally appropriate programs:

- Are designed for the age group served and implemented with attention to the needs and differences of the individual children
- Are not divided into blocks of time by content area; all content areas are integrated around a theme
- Provide an environment arranged in learning centers or learning areas (e.g., art center, science center, reading center, home center, block center). Each center will have a variety of activities for the children. This arrangement allows for a wide range of developmental interests and abilities within the same classroom
- Provide a balance of teacher-directed and child-initiated activities, active and quiet activities, independent and guided activities, large and small groups and individual activities
- Provide a learning process which is active, not passive. Children interact with each other and materials while they engage in cooperative "hands-on" learning with day-to-day life experiences
- Provide curriculum which builds upon what children already know and are able to do to enable them to connect new concepts and skills

These Priority Academic Student Skills are intended to be a minimum curriculum for children attending kindergarten in Oklahoma. Teachers trained in developmentally appropriate curriculum theories will provide an enriched curriculum including the following skills and many others.

SOCIAL SKILLS

Social skills include interacting with others, work habits and self-help skills. To develop these skills children need daily opportunities to choose activities and materials.

By the completion of the school year:

The child will:

A. Work and play cooperatively in a variety of settings (e.g., in large and small groups, learning centers).

B. Exhibit behavior that demonstrates an understanding of school and classroom guidelines (e.g., rules, routines, schedules, procedures, respecting property of others).

C. Listen to others while in large and small groups.

D. Stay involved in a self-selected activity for an appropriate length of time (approximately 15 to 20 minutes).

E. Follow simple verbal directions.

F. Work independently and/or cooperatively to solve problems.

G. Select and complete a task while working at a learning center.

H. Choose a variety of materials and activities from learning centers.

I. Recognize dangerous situations and take action to protect self (e.g., use of telephone, safety rules).

J. Attend to personal tasks (e.g., clothing, personal hygiene).

CREATIVE SKILLS

Creative skills are developed through working with play dough, sand, water, dramatic play areas, blocks, creative stories, art, music, movement and a variety of materials.

By the completion of the school year:

The child will:

A. Express thoughts and ideas about work or play.

B. Develop and verbalize solutions to simple problems.

C. Think of new uses for familiar materials.

LANGUAGE ARTS

Young children begin to develop language arts skills through the context of shared reading with quality children's literature, shared writing, language experience, reading and writing centers.

By the completion of the school year:

The child will:

A. Complete simple rhyming pairs (e.g., boat/coat).

B. Hear and repeat sounds in a sequence (e.g., hand rhythms, vocal sounds, numbers in a sequence, letters in a sequence, five sounds in a sequence).

C. Hear and repeat a simple eight-to-ten word sentence.

D. Tell what happens first, middle and last about an event or activity.

E. Dictate a story about an event or experience.

F. Answer questions and contribute ideas that are relevant to the conversation or group discussion.

G. Speak using complete sentences that include a subject, verb, simple phrases and some adjectives (i.e., I rode a big bus to school).

H. Tell what is happening in a picture.

I. Identify and read first and last name in print.

J. Reproduce a three-object pattern from memory (e.g., □ □ ○).

K. Identify and name eight basic colors (black, blue, red, yellow, orange, green, brown, purple).

L. Match at least half of the upper-case letters with the lower-case letters.

M. Begin to use initial and ending consonant sounds.

N. Begin to name letters of the alphabet.

O. Begin to recognize, name and match words in context.

P. Read his or her own "writing" to the group, teacher and/or parent (e.g., may be pictures, attempts at letters, initial consonants, words and phrases).

Q. Demonstrate left-to-right and top-to-bottom eye movement when engaged in appropriate activities (e.g., looking at pictures in sequence, following print on a page).

R. Show basic parts of a book (front and back), hold book correctly, indicate where to begin reading.

S. Print first and last name on unlined paper.

T. Trace, copy and generate shapes, letters and numerals. Children may still be reversing some letters.

MATHEMATICS

Young children begin to develop mathematical understanding through experiences with a wide variety of real objects provided in learning centers and practical situations (e.g., blocks, pegs, buttons, cooking).

By the completion of the school year:

The child will:

A. Identify, name and draw a circle, square, rectangle and triangle when shown an example.

B. Identify some three-dimensional objects (e.g., box, can, etc.).

C. Sort objects, group into a set and tell what the objects have in common (e.g., color, size, shape).

D. Build groups or sets that have more than, less than and equivalent quantities and tell which have more or less.

E. Pair and count objects using one-to-one correspondence (e.g., one napkin for each child at snack time).

F. Count orally from one to twenty.

G. Count objects in a set orally one-by-one from zero through ten.

H. Construct, identify and name sets of objects zero through ten .

I. Identify and name numerals zero through ten (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) in and out of sequence.

J. Match sets of objects to numerals zero through ten.

K. Point to objects and name their ordinal position first through fifth.

L. Write numerals zero to ten, in and out of sequence, on unlined paper. Children may still be reversing some numerals.

M. Identify and name sizes such as big, bigger, biggest; small, smaller, smallest; small, medium, large.

N. Identify and name lengths such as long, longer, longest; short, shorter, shortest.

O. Put objects in graduated order from shortest to tallest, thinnest to thickest.

P. Identify and name a penny, nickel, dime and quarter.

Q. Help create and explain a simple graph such as a bar graph showing how many boys and girls are in the class.

R. Complete and construct simple patterns with objects such as car, block, car, block.

S. Demonstrate (with objects) spatially related terms such as on, above, below, beside, under, on top of, behind and over.

T. Identify the days of the week and months of the year.

MOTOR SKILLS

Young children need the opportunity to develop large and small motor skills through indoor and outdoor activities and games.

By the completion of the school year:

The child will:

A. Demonstrate basic locomotor movements such as walking, running, jumping, hopping, galloping and skipping.

B. Demonstrate nonlocomotor movements such as bending, stretching, pulling, pushing, etc.

C. Balance on one foot for approximately five seconds.

D. Walk and balance on a four-inch line or balance beam.

E. Coordinate large arm movements such as easel painting, woodworking, climbing, throwing, playing rhythm band instruments, writing on chalkboard, playing with blocks, catching and tossing.

F. Demonstrate strengthened hand and eye coordination while working with pegs, stringing beads, using pattern blocks, using crayons, pencils, paint brushes and fingerpaint on plain paper, cutting with scissors, using glue and a variety of puzzles.

G. Hold and use pencil, crayons and marker using thumb and two fingers.

SCIENCE

Science knowledge is developed through experiences with real animals, plants and objects in the classroom science center and the environment.

By the completion of the school year:

The child will:

A. Observe and describe characteristics of the four seasons such as temperature, weather, appropriate clothing, etc.

B. Observe and describe characteristics of weather using vocabulary such as sun, rainbow, clouds, fog, shadows, dew, frost, rain, hail, sleet, snow, lightning, thunder, temperature and tornado.

C. Observe and describe what various plants and animals need for growth.

D. Observe, classify and describe the sensory attributes of objects according to taste, smell, hearing, touch and sight.

E. Observe, describe and classify real objects according to their common properties (e.g., animals, plants).

F. State the opposite properties of some objects, such as magnetic—nonmagnetic, float—sink, heavy—light, rough—smooth, hard—soft, solid—liquid and wet—dry.

G. Observe and describe the sequence of "simple" life cycles such as plants, frogs, butterflies and chickens (e.g., seed/plant, egg/chicken).

H. Discuss basic health needs of human beings such as good nutrition, dental care and exercise.

I. Describe simple conservation measures used to protect our environment (e.g., recycling).

J. Observe, describe and experiment with vibration and sound such as rubber bands, bottles of water, homemade telephone.

SOCIAL STUDIES

Social studies provides an opportunity to develop an integrated curriculum using topics such as transportation, national symbols, holidays and economics. These experiences can be provided through learning centers, resource people, projects, field trips, etc.

By completion of the school year:

The child will:

A. State his/her full name, age, birthdate, address, telephone number and name of parent or guardian.

B. Identify the title of various school helpers and the individual who occupies that job in the immediate school setting, including principal, secretary, custodian, counselor, librarian, nurse, cook and teacher.

C. Identify common occupations that occur within their immediate surroundings (e.g., bus driver, policeman, fireman).

D. Identify how children within the local community and around the world have needs in common and are also unique as to languages, food, clothing, transportation and customs.

E. Recognize Oklahoma on a map of the United States.

F. Begin to develop an understanding of city/town, state, country.

LANGUAGE ARTS

Grades 1 - 12

Reading
Writing
Listening
Speaking
Literature

LANGUAGE ARTS

OVERVIEW

The goal of the English language arts program is to provide all students in Oklahoma with the most effective instruction for the learning of reading, writing, listening, speaking and literature. This curriculum seeks to ensure that students develop their own unique talents in language arts so they can participate constructively as literate citizens in a democratic society.

LANGUAGE ARTS - READING

Grade 1

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Participate in shared book experiences by listening and responding to print materials read aloud (e.g., stories, poems, songs, informational texts).

B. Read independently for increasingly sustained periods of time.

C. Discuss books, authors and illustrators.

D. Read for the purpose of communication (e.g., messages, letters, invitations, journals).

E. Use functional print (e.g., schedules, directions, lists, morning messages) to accomplish tasks.

F. Read to learn new information from various sources (e.g., trade books, dictionaries, magazines, informational texts).

G. Develop an awareness of the parts of a book (e.g., title page, table of contents).

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Demonstrate an understanding of concepts of print (understand directionality of print, the function of letters, words and spaces and that print is talk written down).

B. Use phonics as a tool to determine unknown words in a reading selection (consonant and vowel sounds).

C. Use picture details and known words in context to determine meanings of unknown words.

D. Use a variety of strategies (prediction, context, structural analysis and phonics) to identify unknown words.

E. Develop a sight vocabulary through reading.

F. Use prediction strategies in order to read pattern books (stories with a repetitive element).

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Retell and draw pictures of beginnings, middles and endings of stories.

C. Demonstrate awareness of characters, settings and events through retelling stories.

D. Respond to literature and other print material through discussion, dramatization, art, writing and reading other books.

IV. **The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.**

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Predict what will happen next based on context clues.

C. Participate in directed reading-thinking activities and directed listening-thinking activities.

D. Use K-W-L charts (what the student *knows*, what the student *wants* to know and what the student has *learned*).

LANGUAGE ARTS - READING
Grade 2

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Listen to print materials read aloud (e.g., stories, poems, songs, informational texts).

B. Read silently.

C. Read independently for increasingly sustained periods of time.

D. Read different genres (e.g., fables, folktales, poetry, plays, informational books).

E. Discuss favorite books, authors and illustrators.

F. Choose to read a variety of materials for various purposes.

G. Read for the purpose of communication (e.g., messages, letters, invitations, journals).

H. Use functional print (e.g., schedules, directions, messages, letters) to accomplish tasks.

I. Use various sources (e.g., trade books, dictionaries, magazines, informational texts) to learn new information.

J. Use parts of a book (e.g., table of contents, glossary, index, title page) for specific purposes.

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Use picture details and known words in context to determine meanings of unknown words.

B. Use a variety of strategies (prediction, context, structural analysis and phonics) to identify unknown words.

C. Develop a sight vocabulary through reading.

D. Read familiar material with fluency and appropriate expression.

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Recognize and retell the major elements of story structure such as beginning-middle-end, character, setting and plot.

C. Use story maps and other graphic organizers to aid in recall of the key concept(s) and details.

D. Respond to literature and other print material through discussion, dramatization, art, writing and reading other books.

E. Draw conclusions and predict outcomes from the evidence presented in the reading.

F. Make judgments about the author's purpose.

IV. **The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.**

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Participate in directed reading-thinking activities and directed listening-thinking activities.

D. Use K-W-L charts (what the student *knows*, what the student *wants* to know and what the student has *learned*).

E. Summarize key concepts.

LANGUAGE ARTS - READING

Grade 3

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Listen to print materials read aloud (e.g., stories, poems, songs, informational texts).

B. Read silently for increasingly sustained periods of time.

C. Read different genres (e.g., fables, picture books, fiction, fantasy, nonfiction, biography).

D. Discuss favorite books, authors and genres.

E. Choose to read a variety of materials for various purposes.

F. Read for the purpose of communication (e.g., messages, letters, invitations, journals).

G. Use functional print (e.g., schedules, letters, catalogs, directories, charts, maps, graphs, directions) to accomplish tasks.

H Use various sources (e.g., trade books, dictionaries, almanacs, atlases, encyclopedias, magazines) to learn new information.

I. Use parts of a book (e.g., table of contents, glossary, index, title page) for specific purposes.

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Use picture details and known words in context to determine meanings of unknown words.

B. Use a variety of strategies (prediction, context, structural analysis and phonics) to identify unknown words.

C. Develop a sight vocabulary through reading.

D. Expand vocabulary through word study, the reading of literature and class discussion (e.g., multiple meanings, definitions, meaning in context).

E. Read familiar material with fluency and appropriate expression.

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Retell stories or informational articles in his/her own words.

C. Identify the major elements of story structure (beginning-middle-end, character, setting and plot).

D. Use story maps and other graphic organizers to aid in recall of the key concept(s) and details.

E. Distinguish between reality and fantasy, fact and opinion.

F. Respond to literature through discussion, dramatization, art, writing and reading other books.

G. Draw conclusions and predict outcomes from the evidence presented in the reading material.

H. Recognize relationships in text such as problem/solution, comparison/contrast, cause/effect and sequential order.

I. Make judgments about the author's purpose.

IV. **The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.**

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Participate in directed reading-thinking activities and directed listening-thinking activities.

D. Use K-W-L charts (what the student *knows*, what the student *wants* to know and what the student has *learned*).

E. Summarize key concepts.

LANGUAGE ARTS - READING
Grade 4

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Read silently for increased periods of time.

B. Read for a variety of purposes such as for entertainment and for information.

C. Choose a variety of reading and listening materials including, but not limited to, mysteries, autobiographies, fiction, biographies, historical fiction, poetry and informational texts.

D. Demonstrate use of functional print to accomplish tasks including, but not limited to, schedules, catalogs, directories, charts, maps, graphs and directions.

E. Demonstrate appropriate use of informational sources including, but not limited to, trade books, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

F. Use parts of a book including, but not limited to, table of contents, glossary, index and title page for specific purposes.

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).

B. Determine the purpose for reading a specific passage.

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Identify narrative and expository text.

C. Identify major elements of story structure (setting, characters, goal and conflict, major events of the plot and conflict resolution).

D. Determine a statement of central purpose, theme or the key concept(s) of a story, poem or expository passage.

E. Identify details that support or describe a key concept.

F. Evaluate, react and respond to reading materials through the arts, writing, discussion and/or further reading.

G. Make inferences and draw conclusions from the evidence presented in the reading material.

H. Recognize relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.

I. Determine the author's purpose and point of view even when not explicitly stated.

J. Interpret meaning of figurative language.

IV. **The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.**

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Generate questions to clarify meaning.

D. Use a variety of comprehension and study strategies (outlining, webbing/clustering, skimming, K-W-L charts [what the student *knows*, what the student *wants* to know and what the student has *learned*] and summarizing).

LANGUAGE ARTS - READING

Grade 5

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Read silently for increased periods of time.

B. Read for a variety of purposes such as for entertainment and for information.

C. Demonstrate increased awareness of reading and listening choices (e.g., mysteries, autobiographies, fiction, biographies, historical fiction, poetry, informational texts).

D. Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, graphs and directions.

E. Demonstrate appropriate use of informational sources including, but not limited to, trade books, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).

B. Determine the purpose for reading a specific passage.

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Identify narrative and expository text.

C. Identify major elements of story structure (setting, characters, goal, conflict, major events of the plot and resolution).

D. Recognize relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.

E. Determine a statement of central purpose, theme or the key concept(s) of a story, poem or expository passage.

F. Identify details that support or describe a key concept.

G. Evaluate, react and respond to reading materials through the arts, writing, discussion and/or further reading.

H. Determine the author's purpose and point of view even when not explicitly stated.

I. Interpret meaning from the author's use of figurative language.

J. Make inferences and draw conclusions from the evidence presented in the reading material.

IV. **The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.**

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Generate questions to clarify meaning.

D. Use a variety of comprehension and study strategies (outlining, webbing/clustering, skimming, K-W-L charts [what the student *knows*, what the student *wants* to know and what the student has *learned*] and summarizing).

E. Adjust reading rates according to the purpose for reading.

LANGUAGE ARTS - READING

Grades 6 - 8

I. **The student will exhibit positive reading habits and view reading as important.**

The student will:

A. Choose to read independently for sustained periods of time.

B. Read for a variety of purposes such as for entertainment and for information.

C. Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, maps, graphs and directions.

D. Demonstrate appropriate use of informational sources including, but not limited to, trade books, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

II. **The student will read with fluency in order to understand what is read.**

The student will:

A. Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).

B. Determine the purpose for reading a specific passage.

III. **The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).**

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Identify narrative and expository text.

C. Use story structure to organize, recall and make inferences about the story (setting, characters, goal, plot, conflict and resolution).

D. Determine a statement of the key concept(s), actual or implied, or theme.

E. Identify details that support or describe a key concept.

F. Evaluate and respond to reading materials through the arts, discussion, writing and/or further reading.

G. Make inferences and draw conclusions from the evidence presented in the reading material.

H. Recognize and interpret relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.

I. Determine the author's purpose and point of view even when not explicitly stated.

J. Interpret meaning from the author's use of figurative language.

K. Use background knowledge and questioning to evaluate issues and propaganda within reading material.

IV. The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Generate questions to clarify meaning.

D. Adjust reading rate according to the purpose for reading.

E. Use appropriate strategies for studying and learning from the text such as outlining, webbing/clustering, skimming and summarizing.

F. Summarize text by identifying and organizing relevant material.

G. Relate dictionary definitions to the context of the reading in order to aid understanding.

H. Determine strategies appropriate to text and context.

LANGUAGE ARTS - READING

Grades 9 - 12

I. The student will exhibit positive reading habits and view reading as important.

The student will:

A. Read for a variety of purposes such as for entertainment and for information.

B. Locate and use information to increase knowledge of content areas and topics of personal interest.

C. Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, maps, graphs and directions.

D. Demonstrate appropriate use of informational sources including, but not limited to, trade books, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

II. The student will read with fluency in order to understand what is read.

The student will:

A. Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).

B. Determine the purpose for reading a specific passage.

III. The student will use prior knowledge to become actively engaged with the reading material and use a range of comprehension skills (literal, inferential and evaluative).

The student will:

A. Preview the material and use prior experiences and background knowledge to gain understanding of the reading passage.

B. Identify narrative and expository text.

C. Recall and organize information, make inferences and draw conclusions by using story structure.

D. Determine a statement of the key concept(s) or theme and identify supporting details of a reading passage.

E. Identify details that support or describe a key concept.

F. Evaluate and respond to reading materials through the arts, discussion, writing and/or further reading.

G. Interpret relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.

H. Analyze the author's purpose and point of view in order to evaluate source credibility and reliability.

I. Interpret meaning from the author's use of figurative language and literary devices.

J. Identify the author's writing style.

K. Evaluate issues and propaganda within reading material.

IV. The student will know the goal of reading is constructing meaning and will use effective strategies to aid comprehension.

The student will:

A. Expect the reading material to make sense and use correction strategies when the meaning is not clear.

B. Make predictions and verify or revise thinking while reading.

C. Generate questions to clarify meaning.

D. Use appropriate study strategies including outlining, webbing/clustering, summarizing and developing questions.

E. Adjust reading rate according to the purpose for reading.

F. Use appropriate strategies for summarization including deleting irrelevant and repetitious material and classifying and categorizing information.

G. Relate dictionary definitions to prior experiences and to the context of the reading.

H. Determine strategies appropriate to text and context.

LANGUAGE ARTS
Grade 1

Program Skills

I. **Use thinking skills to acquire and process written and auditory information for a variety of purposes.**

II. **Effectively express ideas in oral and written modes for a variety of purposes and audiences.**

III. **Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

IV. **Recognize, analyze and evaluate the functions of and changes in language.**

The student will:

A. Distinguish between realistic and nonrealistic (e.g., stories, films, television programs).

B. Organize ideas into a chronological sequence (e.g., 1st, 2nd, 3rd; sequence of events).

C. Tell and write personal identification data (e.g., name, address, phone number, family's names).

D. Copy and/or compose in a legible manner (e.g., handwriting in class work).

E. Use the process approach to write coherently, using the developmentally appropriate steps from the following list: prewriting, drafting, revising, editing or proofreading, publishing or sharing.

F. Write for a variety of purposes and audiences (e.g., creative writing, invitations, notes).

G. Recognize that written language can represent spoken language (e.g., dictate to teacher, write from dictation).

LANGUAGE ARTS
Grade 2

Program Skills

I. **Use thinking skills to acquire and process written and auditory information for a variety of purposes.**

II. **Effectively express ideas in oral and written modes for a variety of purposes and audiences.**

III. **Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

IV. **Recognize, analyze and evaluate the functions of and changes in language.**

The student will:

A. Read aloud his/her own writings or published works (e.g., sentences or paragraphs from books, stories, scripts).

B. Locate information using alphabetical skills (e.g., telephone directory, dictionary).

C. Organize ideas into a chronological or logical sequence (e.g., 1st, 2nd, 3rd; sequence of events).

D. Express ideas and opinions in class discussions and simple reports.

E. Copy and/or compose in a legible manner (e.g., handwriting in class work).

F. Use the process approach to write coherently, using the developmentally appropriate steps from the following list: prewriting, drafting, revising, editing or proofreading, publishing or sharing.

G. Write for a variety of purposes and audiences (e.g., creative writing, invitations, notes).

H. Recognize that language has many uses (e.g., informing, persuading, entertaining, celebrating, rhyming).

I. Speak articulately and audibly, using appropriate language (e.g., enunciation, volume, usage).

J. Recognize that words represent ideas, experiences, objects, events and actions (e.g., naming, describing, acting words).

K. Distinguish between selling and telling messages (e.g., commercials, advertisements, safety and drug public service announcements).

LANGUAGE ARTS

Grade 3

Program Skills

I. Use thinking skills to acquire and process written and auditory information for a variety of purposes.

II. Effectively express ideas in oral and written modes for a variety of purposes and audiences.

III. Recognize major literary and cultural traditions and use them as a foundation for effective communication.

The student will:

A. Distinguish among fact, opinion and fiction in nonprint media (e.g., electronic media, advertising).

B. Demonstrate thinking skills in listening, speaking, reading and writing (e.g., focusing, gathering information, organizing, analyzing, synthesizing, generating, evaluating print and nonprint information).

C. Express ideas and opinions in group or individual situations (e.g., reports, discussions, journals, presentations).

D. Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).

E. Demonstrate appropriate practices in written composition (e.g.,complete thoughts, complete sentences, usage, mechanics, spelling, parts of speech).

F. Write for a variety of purposes and audiences (e.g., to inform, to persuade, to entertain, to instruct, to describe).

G. Communicate through a variety of written forms, using paper and/or technology (e.g., sentences, paragraphs, compositions, poetry, stories, notes, letters).

LANGUAGE ARTS

Grade 4

Program Skills

I. **Use thinking skills to acquire and process written and auditory information for a variety of purposes.**

II. **Effectively express ideas in oral and written modes for a variety of purposes and audiences.**

III. **Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

The student will:

A. Listen for information and for pleasure (e.g., directions, teacher-read stories).

B. Use thinking skills to acquire and process written and auditory information for a variety of purposes.

C. Distinguish between fact, opinion and fantasy in print and nonprint media (e.g., literature, electronic media, advertising, propaganda).

D. Communicate orally and through written forms on paper and/or on a computer screen (e.g., to inform, to persuade, to entertain, to express ideas, using sentences, paragraphs, compositions, poetry, stories, letters, note-taking skills, journals, reports, presentations or discussions).

E. Demonstrate thinking skills in listening, speaking, reading and writing (e.g., focusing, gathering information, organizing, analyzing, synthesizing, generating, evaluating print and nonprint information).

F. Speak before a group using appropriate delivery and language skills (e.g., volume, enunciation, pronunciation, word choice, movement, usage).

G. Expand vocabulary through word study, literature and class discussion (e.g., multiple meanings, definitions, meaning in context).

H. Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).

I. Demonstrate appropriate practices in written composition (e.g., complete thought, complete sentences, usage, mechanics, spelling).

J. Use descriptive language (e.g., action verbs, vivid adjectives and adverbs).

K. Read and demonstrate a knowledge of various forms (genres) of literature (e.g., stories, books, poems, plays, essays).

LANGUAGE ARTS

Grade 5

Program Skills

- **I. Use thinking skills to acquire and process written and auditory information for a variety of purposes.**
- **II. Effectively express ideas in oral and written modes for a variety of purposes and audiences.**
- **III. Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

The student will:

- A. Listen for information and for pleasure (e.g., directions, teacher-read stories).
- B. Identify the main idea in a work of nonfiction (e.g., informative material, *Weekly Reader*, *Scholastic*, textbooks).
- C. Discuss the meaning of figurative language when encountered in appropriate text (e.g., literal v. interpretive reading, metaphors, similes, idioms).
- D. Distinguish between fact, opinion and fantasy in print and nonprint media (e.g., literature, electronic media, advertising, propaganda).
- E. Communicate orally and through written forms on paper and/or on a computer screen (e.g., to inform, to persuade, to entertain, to express ideas; using sentences, paragraphs, compositions, poetry, stories, letters, note-taking skills, journals, reports, presentations or discussions).
- F. Demonstrate thinking skills in listening, speaking, reading and writing (e.g., focusing, gathering information, organizing, analyzing, synthesizing, generating, evaluating print and nonprint information).
- G. Speak before a group using appropriate delivery and language skills (e.g., volume, enunciation, pronunciation, word choice, movement, usage).
- H. Expand vocabulary through word study, literature and class discussion (e.g., multiple meanings, definitions, meaning in context).
- I. Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).
- J. Demonstrate appropriate conventions in written composition (e.g., complete thoughts, complete sentences, usage, mechanics, spelling).
- K. Use descriptive language (e.g., action verbs, vivid adjectives and adverbs).
- L. Demonstrate a knowledge of literary elements and how they affect the development of a story (e.g., plot, character, setting).
- M. Demonstrate a knowledge of and an appreciation for various forms (genres) of literature (e.g., stories, books, poems, plays, essays).

PRIORITY ACADEMIC STUDENT SKILLS

LANGUAGE ARTS

Grades 6 - 8

Program Skills

I. **Use thinking skills to acquire and process written and auditory information for a variety of purposes.**

II. **Effectively express ideas in oral and written modes for a variety of purposes and audiences.**

III. **Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

The student will:

A. Listen for a variety of purposes (e.g., enjoying, recalling, interpreting, applying, evaluating directions or concepts).

B. Expand strategies to comprehend oral and written materials (e.g., "strategic reading," class discussion, note-taking, clustering or outlining information).

C. Understand fact, opinion and fantasy in print and nonprint media (e.g., literature, electronic media, advertising, propaganda).

D. Use techniques of writing to learn (e.g., note-taking, outlining, cubing, interviewing, journals, learning logs).

E. Communicate through a variety of written forms, on paper and on a computer screen (e.g., paragraphs, compositions, poetry, stories, friendly and business letters).

F. Demonstrate thinking skills in listening, speaking, reading and writing (e.g., focusing, gathering, organizing, analyzing, synthesizing, generating, evaluating print and nonprint information).

G. Express ideas and opinions orally and in writing (e.g., writing or performing plays, dialogues, reports).

H. Expand vocabulary through word study, literature and class discussion (e.g., word origins, roots and affixes, meaning in context, levels of usage).

I. Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).

J. Demonstrate use of appropriate conventions in written composition (e.g., edit for usage, mechanics and spelling).

K. Compose a variety of types of paragraphs, each containing a topic sentence, supporting sentences and a concluding sentence (e.g., narrative, descriptive, expository, persuasive).

L. Communicate for a variety of audiences and purposes (e.g., to inform, to entertain, to persuade, to express ideas).

M. Comprehend and use figurative language and sound devices in speaking and writing (e.g., metaphor, simile, personification, rhythm, rhyme, alliteration, onomatopoeia).

N. Demonstrate a knowledge of literary elements and how they affect the development of a literary work (e.g., plot, character, setting, theme, conflict, symbolism, point of view).

O. Demonstrate a knowledge of and appreciation for various forms (genres) of literature (e.g., short story, novel, drama, narrative and lyric poetry, essay, biography).

P. Demonstrate awareness of literature from other cultures (e.g., fables, legends, myths, nonfiction articles).

LANGUAGE ARTS
Grades 9 - 12

Program skills

I. **Use thinking skills to acquire and process written and auditory information for a variety of purposes.**

II. **Effectively express ideas in oral and written modes for a variety of purposes and audiences.**

III. **Recognize major literary and cultural traditions and use them as a foundation for effective communication.**

IV. **Develop an understanding of themselves and those from other cultures through the study of language and literature.**

The student will:

A. Analyze, evaluate and explain the thinking or behavior represented in a work of literature from or about another culture (e.g., Native American, other countries' literatures).

B. Write a documented essay using research methods, incorporating the techniques of Modern Language Association, or similar parenthetical styles (e.g., research paper, report).

C. Demonstrate essay test-taking techniques (e.g., addressing the question, comparison/contrast, analysis, exposition, persuasion, timed writing).

D. Demonstrate thinking skills in listening, speaking, reading and writing (e.g., focusing, gathering information, organizing, analyzing, synthesizing, generating, evaluating print and nonprint information).

E. Expand vocabulary through word study, literature and class discussion (e.g., connotation/denotation, etymology, levels of usage, neologisms).

F. Utilize the writing process (prewriting, drafting, revising, editing, publishing) to develop and refine composition skills (to include coherence, unity, logical organization, development of topic and thesis, continuity of purpose).

G. Produce multiparagraph assignments with a thesis, supporting paragraphs and a conclusion, either on paper or on a computer screen (to include narrative, descriptive, expository, persuasive, life experiences).

H. Identify and use figurative language and sound devices (e.g., metaphor, simile, personification, rhythm, rhyme, alliteration, onomatopoeia, hyperbole, analogy).

I. Demonstrate knowledge of literary elements and techniques and how they affect the development of a literary work (to include plot, character, setting, theme, conflict, point of view, symbolism, imagery, flashback, foreshadowing, irony, tone, allusion).

J. Demonstrate knowledge of and appreciation for various forms (genres) of literature (to include nonfiction works, essay, short story, novel, drama, narrative and lyric poetry).

K. Recognize human universals (archetypes) represented in literature and apply them to their lives (e.g., initiation, themes or motifs).

L. Demonstrate positive concepts of self and others, model respect and uphold basic human rights (e.g., resisting bias or learning about other cultures).

MATHEMATICS

Grades 1 - 12

MATHEMATICS

OVERVIEW

The Priority Academic Student Skills (P.A.S.S.) for mathematics sets forth the basic mathematical skills for Oklahoma students. These skills are meant to be used by educators in developing mathematics curriculum appropriate to the needs of their own students.

These skills are based on the following goals for all students:

- Students should value mathematics.
- Students should be confident in their ability to do mathematics.
- Students should be mathematical problem solvers.
- Students should be able to communicate mathematically.
- Students should be able to reason mathematically.

To reach a high level of achievement in mathematics, it is necessary to focus on learning and teaching the processes of mathematics as well as the content of mathematics. For each grade level, process and content skills are listed. Though they are defined separately, the process skills should not be viewed as separate units of study. The mathematics curriculum should integrate some or all of the process skills into content-centered lessons.

Advances in information technology are occurring rapidly; therefore, today's mathematical applications may be outdated tomorrow and applications which do not currently exist will be necessary tomorrow. In such a situation, students must develop thinking skills and the ability to use technology.

Recognizing that students learn best by being actively involved, the Priority Academic Student Skills describe developmentally appropriate tools for mathematics learning. These tools include models, manipulatives (concrete materials), calculators and computers as appropriate. These new tools do not replace pencil-and-paper computation, but can be used to enhance conceptual development and provide more opportunities to perform sophisticated problem-solving at any grade level.

INTRODUCTION

Grades 1 -5

Developmentally appropriate mathematics curriculum for grades one through five must encourage the exploration of a wide variety of mathematical ideas. Programs should fit the needs of the learner. Student success in further study of mathematics depends largely on the quality of the foundation that is established during the first five years of school.

The mathematics curriculum for grades one through five must:

1. **Devote substantial time to the development of conceptual understandings** in the context of physical situations. Children need to explore, investigate and experiment with everyday objects and concrete materials (manipulatives) such as buttons, beans, egg and milk cartons, counters, attribute and pattern blocks, interlocking cubes, base-10 blocks, geometric models, geoboards, fraction pieces, rulers, balances, spinners and dot paper.
2. **Actively involve children in doing mathematics with extensive and thoughtful use of manipulatives** (concrete materials) in an environment that encourages children to develop, test, discuss and apply ideas.
3. **Require appropriate reasoning and problem-solving experiences** from the outset, instilling in students a sense of confidence in their ability to think and communicate mathematically, to detect patterns and to analyze data.
4. **Emphasize the power of mathematics** in helping children understand and interpret their world and solve problems which occur in it.
5. **Include a broad range of content** by incorporating an informal approach to measurement, geometry, statistics, probability and algebra. This helps students see the usefulness of mathematics and establishes a foundation for further study.
6. **Provide appropriate and ongoing use of calculators and computers** by enabling children to explore number ideas and patterns, to focus on problem-solving processes and to investigate realistic applications. Calculators do not replace the need to learn basic facts, to compute mentally or to do reasonable paper-and-pencil computation.

Appropriate active instruction should include opportunities for:

use of manipulative materials;
group work;
discussion of mathematical ideas, concepts and processes;
questioning;
project work;
justification of thinking;
writing about mathematics;
problem-solving as a means to learning concepts;
integration of mathematical concepts;
integration of mathematics in other content areas; and
use of technology (calculators and computers).

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MATHEMATICS
Grade 1

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Use problem-solving approaches and technology to investigate and understand mathematical content.

B. Formulate problems from everyday and mathematical situations.

C. Develop and apply strategies to solve a variety of routine and nonroutine problems.

D. Verify and interpret results with respect to the original problem.

II. Mathematics as Communication

The student will:

A. Relate manipulatives, pictures and diagrams to mathematical ideas.

B. Relate his/her everyday language to mathematical language and symbols.

C. Read, discuss or represent mathematical ideas and concepts.

III. Mathematics as Reasoning

The student will:

A. Draw conclusions about mathematical ideas and concepts.

B. Use manipulatives, models, known facts, properties and relationships to explain thinking processes.

C. Use patterns and relationships to explain mathematical situations.

IV. Mathematics as Connections

The student will:

A. Relate various concrete and pictorial models of concepts and procedures to one another.

B. Use mathematics in other curriculum areas.

C. Use mathematics in daily life.

CONTENT SKILLS

V. Patterns and Relationships

The student will use manipulatives to recognize, extend, describe and create a wide variety of patterns.

The student will:

A. Identify and describe patterns in everyday situations.

B. Identify and extend patterns made up of sets of concrete objects and shapes.

C. Sort objects according to given attributes and student-generated attributes and report findings.

D. Order objects according to given attributes and student-generated attributes and report findings.

Possible manipulatives include: shells, keys, macaroni, buttons and children's books.

VI. Number Sense and Numeration

The student will construct and interpret number meanings through practical, everyday experiences and the use of manipulatives.

The student will:

A. Compare sets by size and quantity.

B. Use concrete models of tens and ones to develop the concept of place value.

C. Read and write numerals.

D. Count objects by ones, twos, fives and tens.

E. Use ordinal numbers.

Possible manipulatives include: counters, beans, unifix cubes, bean sticks or base-10 blocks and children's books.

VII. Whole Number Operations and Computation

The student will use manipulatives to discover and develop meaning for the operations (e.g., addition, subtraction) in a variety of problem situations.

The student will:

A. Develop operation sense by applying the properties (e.g., commutative, identity) of addition.

B. Perform addition by joining sets of objects and subtraction by separating and by comparing sets of objects.

C. Write addition and subtraction number sentences for problem situations.

D. Use models to construct addition facts to 12.

E. Recognize when estimation is appropriate (e.g., determining the reasonableness of results).

F. Select and use computation techniques appropriate to specific problem situations.

Possible manipulatives include: bean sticks or base-10 blocks, counters, unifix cubes and dominoes.

VIII. Geometry and Spatial Sense

The student will manipulate, describe, construct and classify simple geometric shapes.

The student will:

A. Use concrete materials to construct simple geometric shapes and combine shapes to form new shapes.

B. Use models to describe similarities and differences of geometric shapes using appropriate mathematical language.

C. Recognize geometry in everyday situations.

Possible manipulatives include: geoboards, tangrams and pattern blocks.

IX. Measurement

The student will use manipulatives to study the attributes of length, capacity, weight, volume and time.

The student will:

A. Make and use estimates of measurement.

B. Measure objects with nonstandard and standard units.

C. Select and use appropriate units of measurement in problem-solving and everyday situations.

D. Describe the value of coins.

E. Develop calendar concepts.

F. Tell time to the hour and half-hour.

Possible manipulatives include: nonstandard measures such as unifix cubes, straws, containers and footprints; standard measures such as balance scales, geoboards, coins and clocks.

X. Statistics and Probability

The student will investigate statistics and probability using appropriate materials.

The student will:

A. Collect, organize and describe data while working with others in a whole class or group situation.

B. Formulate and solve problems that involve collecting and analyzing data.

C. Explore concepts of probability and make predictions.

Possible manipulatives include: graph mats, pattern blocks and painted beans.

XI. Fractions

The student will use manipulatives to discover concepts of fractions.

The student will:

A. Explore the concept of fractional parts.

B. Separate an object and a set of objects into halves.

Possible manipulatives include: unifix cubes, circles and squares.

MATHEMATICS

Grade 2

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

- A. Use problem-solving approaches and technology to investigate and understand mathematical content.
- B. Formulate problems from everyday and mathematical situations.
- C. Develop and apply strategies to solve a variety of routine and nonroutine problems.
- D. Verify and interpret results with respect to the original problem.

II. Mathematics as Communication

The student will:

- A. Relate manipulatives, pictures and diagrams to mathematical ideas.
- B. Relate his/her everyday language to mathematical language and symbols.
- C. Represent, discuss, write and read mathematical ideas and concepts.

III. Mathematics as Reasoning

The student will:

- A. Draw logical conclusions about mathematical ideas and concepts.
- B. Use manipulatives, models, known facts, properties and relationships to explain thinking processes.
- C. Justify answers and solution processes.
- D. Use patterns and relationships to explain mathematical situations.

IV. Mathematics as Connections

The student will:

- A. Develop the link of conceptual ideas to abstract procedures.
- B. Relate various concrete and pictorial models of concepts and procedures to one another.
- C. Recognize relationships among different topics in mathematics.
- D. Use mathematics in other curriculum areas.
- E. Use mathematics in daily life.

CONTENT SKILLS

V. Patterns and Relationships

The student will use manipulatives to recognize, extend, describe and create a wide variety of patterns.

The student will:

- A. Identify and describe patterns in everyday situations.
- B. Identify, extend and record patterns made up of sets of concrete objects, symbols and shapes.
- C. Sort objects according to given attributes and student-generated attributes and report findings.
- D. Order objects according to given attributes and student-generated attributes and report findings.

Possible manipulatives include: shells, keys, macaroni, buttons and children's books.

VI. Number Sense and Numeration

The student will construct and interpret number meanings through meaningful experiences and the use of manipulatives.

The student will:

- A. Determine whether a number is even or odd.
- B. Write a number sentence to compare numbers, including different names for the same number.
- C. Use concrete models of hundreds, tens and ones to develop the concepts of place value.

D. Use models to link place value concepts to the reading and writing of numbers.

Possible manipulatives include: counters, beans, unifix cubes or multilink cubes, bean sticks or base-10 blocks, Cuisenaire rods and children's books.

VII. **Whole Number Operations and Computation**

The student will use manipulatives to discover and develop meaning for the operations (e.g., addition, subtraction) in a variety of problem situations.

The student will:

A. Develop operation sense by applying the properties (e.g., commutative, identity, associative) of operations and relationships between operations.

B. Identify patterns in addition and subtraction by making observations about ordering and grouping.

C. Write addition and subtraction number sentences for problem situations.

D. Add two, three or four single-digit addends.

E. Use models to construct basic addition and subtraction facts to 18 and complete addition number sentences with a missing addend.

F. Use physical models to solve addition and subtraction problems with and without regrouping.

G. Use a variety of mental computation techniques.

H. Select the correct operation and solve practical, everyday problems involving addition and subtraction.

I. Select and use computation techniques appropriate to specific problem situations.

J. Use estimation to determine the reasonableness of results.

K. Recognize the use of calculators in appropriate problem-solving situations.

Possible manipulatives include: bean sticks or base-10 blocks, calculators, multilink cubes, geoboards and dominoes.

VIII. **Geometry and Spatial Sense**

The student will manipulate, describe, construct and classify simple geometric figures.

The student will:

A. Identify, describe and compare two-dimensional and three-dimensional figures.

B. Make congruent and symmetric figures.

C. Explore perimeter and area using concrete models.

D. Recognize geometry in everyday situations.

Possible manipulatives include: geoboards, multilink cubes, tangrams and pattern blocks.

IX. **Measurement**

The student will use manipulatives to study the attributes of length, capacity, weight, volume and time.

The student will:

A. Make and use estimates of measurement.

B. Measure objects with nonstandard and standard units.

C. Select and use appropriate units of measurement in problem-solving and everyday situations.

D. Identify and count money.

E. Tell time to the hour, half-hour and quarter-hour.

Possible manipulatives include: nonstandard measures such as unifix cubes, paper clips and containers; standard measures such as balance scales, rulers, tape measures, cups and spoons, geoboards, coins and clocks.

X. **Statistics and Probability**

The student will investigate statistics and probability using appropriate materials.

The student will:

A. Collect, organize and interpret data by constructing graphs.

B. Describe graphs and other data displays.

C. Formulate and solve problems that involve collecting and analyzing data.

D. Develop concepts of probability and make predictions.

E. Use estimation to describe data.

Possible manipulatives include: graph mats, unifix cubes, pattern blocks and children's books.

XI. **Fractions**

The student will use manipulatives to develop concepts of fractions.

The student will:

A. Demonstrate fractional parts.

B. Separate an object and a set of objects into halves, thirds, fourths and other fractional parts.

Possible manipulatives include: pattern blocks, tangrams, geoboards and Cuisenaire rods.

MATHEMATICS
Grade 3

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Use problem-solving approaches and technology to investigate and understand mathematical content.

B. Formulate problems from everyday and mathematical situations.

C. Develop and apply strategies to solve a variety of routine and nonroutine problems.

D. Verify and interpret results with respect to the original problem.

II. Mathematics as Communication

The student will:

A. Relate manipulatives, pictures and diagrams to mathematical ideas.

B. Relate his/her everyday language to mathematical language and symbols.

C. Represent, discuss, write and read mathematical ideas and concepts.

III. Mathematics as Reasoning

The student will:

A. Draw logical conclusions about mathematical ideas and concepts.

B. Use manipulatives, models, known facts, properties and relationships to explain thinking processes.

C. Justify answers and solution processes.

D. Use patterns and relationships to analyze mathematical situations.

IV. Mathematics as Connections

The student will:

A. Develop the link of conceptual ideas to abstract procedures.

B. Relate various concrete and pictorial models of concepts and procedures to one another.

C. Recognize relationships among different topics in mathematics.

D. Use mathematics in other curriculum areas.

E. Use mathematics in daily life.

CONTENT SKILLS

V. Patterns and Relationships

The student will use manipulatives to recognize, extend, describe and create a wide variety of patterns and relationships.

The student will:

A. Predict additional terms in a given pattern, describe how the pattern is created and extend the pattern.

B. Given pairs of numbers with a common relationship, determine the rule and generate additional pairs with the same relationship.

C. Recognize patterns of whole numbers, fractions and decimals using concrete and pictorial models.

D. Recognize patterns in multiplication.

Possible manipulatives include: multilink cubes, attribute blocks, base-10 blocks and children's books.

VI. Number Sense and Numeration

The student will construct and interpret number meanings and place value concepts through practical, everyday experiences and the use of manipulatives.

The student will:

A. Read, write and use numbers to describe and interpret mathematical situations.

B. Compare and order whole numbers.

C. Make generalizations from a variety of patterns and relationships of whole numbers including odd and even number patterns.

D. Recognize the relative magnitude of numbers.

E. Use concrete models of thousands, hundreds, tens and ones to develop the concepts of place value.

Possible manipulatives include: counters, beans, unifix cubes or multilink cubes, bean sticks or base-10 blocks, Cuisenaire rods, hundreds chart and children's books.

VII. Whole Number Operations and Computation

The student will discover and develop meaning for the basic operations on whole numbers (e.g., addition, subtraction, multiplication) and apply concepts to computational algorithms.

The student will:

A. Recognize the connection between physical materials and the addition and subtraction algorithm and use the algorithm to add and subtract numbers with and without regrouping.

B. Demonstrate with physical models the properties of multiplication (e.g., identity, commutative, associative).

C. Recognize the relationship between addition and multiplication.

D. Use manipulatives to explain and develop understanding of basic multiplication and division facts and algorithms.

E. Select and use operations appropriate to solve specific problem situations and determine the reasonableness of results.

F. Determine whether a given problem can best be solved using manipulatives, estimation, pencil-and-paper calculation, mental computation or a calculator.

G. Use calculators in appropriateproblem-solving situations.

Possible manipulatives include: bean sticks or base-10 blocks, calculators and multilink cubes.

VIII. Geometry and Spatial Sense

The student will manipulate, describe, construct and classify geometric figures.

The student will:

A. Apply congruence and symmetry using models.

B. Describe two- and three-dimensional figures from different perspectives.

C. Identify angles.

D. Find and record perimeters and areas of simple polygons.

E. Identify applications of geometry in the real world.

Possible manipulatives include: geoboards, multilink cubes, tangrams, mirrors, pattern blocks and color tiles.

IX. Measurement

The student will investigate and develop the process of measurement and concepts related to nonstandard, customary (English) and metric units.

The student will:

A. Identify physical models that approximate units of measure.

B. Estimate and measure the weight and length of an object and determine when an estimate is appropriate.

C. Select appropriate unit of measurement.

D. Use manipulatives to estimate and solve problems involving length, weight, volume, capacity and time.

E. Tell time on digital and analog clocks.

Possible manipulatives include: nonstandard measures such as unifix cubes, paper clips and containers; standard measures such as balance scales, rulers, tape measures, cups and spoons, geoboards and clocks.

X. Statistics and Probability

The student will investigate statistics and probability using appropriate materials.

The student will:

A. Collect, record and interpret data on the frequency of events.

B. Make a variety of graphs where each cell represents multiple units.

C. Formulate questions and make predictions based on organized data.

D. Solve application and nonroutine problems for situations involving graphs.

E. Apply concepts of probability and make predictions.

Possible manipulatives include: graph mats, unifix cubes, pattern blocks and children's books.

XI. Fractions and Decimals

The student will use manipulatives to develop concepts of fractions, mixed numbers and decimals.

The student will:

A. Use symbols (e.g., numbers) to record fractional names for physical models of whole objects or sets of objects.

B. Use physical models to compare fractional parts.

C. Use physical models and pictures to demonstrate different ways of representing the same fractional part.

D. Use coins and bills to describe equivalent decimals.

E. Add and subtract money using models.

F. Develop place value concepts of tenths and hundredths using physical models.

G. Use fraction and decimal concepts in problem situations.

Possible manipulatives include: pattern blocks, tangrams, geoboards and Cuisenaire rods.

MATHEMATICS
Grade 4

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Use problem-solving approaches and technology to investigate and understand mathematical content.

B. Formulate problems from everyday and mathematical situations.

C. Develop and apply strategies to solve a variety of routine and nonroutine problems.

D. Verify and interpret results with respect to the original problem.

II. Mathematics as Communication

The student will:

A. Relate manipulatives, pictures and diagrams to mathematical ideas.

B. Relate his/her everyday language to mathematical language and symbols.

C. Represent, discuss, write and read mathematical ideas and concepts.

III. Mathematics as Reasoning

The student will:

A. Draw logical conclusions about mathematical ideas and concepts.

B. Use manipulatives, models, known facts, properties and relationships to explain thinking processes.

C. Justify answers and solution processes.

D. Use patterns and relationships to analyze mathematical situations.

IV. Mathematics as Connections

The student will:

A. Develop the link of conceptual ideas to abstract procedures.

B. Relate various concrete and pictorial models of concepts and procedures to one another.

C. Recognize relationships among different topics in mathematics.

D. Use mathematics in other curriculum areas.

E. Use mathematics in daily life.

CONTENT SKILLS

V. Patterns and Relationships

The student will recognize, extend, describe and create a wide variety of patterns.

The student will:

A. Predict additional terms in a given pattern, describe how the pattern is created and extend the pattern.

B. Recognize the relationship between numbers or sets of numbers to determine and extend patterns.

C. Investigate patterns of the four basic operations.

Possible manipulatives include: junk boxes, pattern blocks, hundreds chart, geoboards, grid paper and children's books.

VI. Number Sense and Numeration

The student will construct and interpret number meanings and place value concepts through practical, everyday experiences and the use of manipulatives.

The student will:

A. Develop the place value concepts of the decimal numeration system.

B. Compare and order whole numbers.

C. Investigate the comparison of decimals.

D. Recognize the relative magnitude of numbers.

Possible manipulatives include: counters, beans, unifix cubes or multilink cubes, bean sticks or base-10 blocks, Cuisenaire rods, color tiles and children's books.

VII. Whole Number Operations and Computation

The student will discover and develop meaning for the basic operations on whole numbers (e.g., addition, subtraction, multiplication, division) and apply concepts to computational algorithms.

The student will:

A. Recognize the connection between physical materials and the multiplication and division algorithms and use the algorithm to multiply and divide numbers.

B. Apply properties of operations (e.g., identity, commutative, associative).

C. Use a variety of techniques for estimation and mental computation.

D. Select and use operations appropriate to solve specific problem situations and determine the reasonableness of results.

E. Determine whether a given problem can best be solved using manipulatives, estimation, pencil-and-paper calculation, mental computation or a calculator.

F. Use calculators and other technology in appropriate problem-solving situations.

Possible manipulatives include: bean sticks or base-10 blocks, calculators and multilink cubes.

VIII. Geometry and Spatial Sense

The student will describe, construct and classify geometric figures.

The student will:

A. Identify and construct models of intersecting lines, parallel lines and perpendicular lines.

B. Apply the concepts of symmetry and congruence.

C. Describe and construct two- and three-dimensional figures.

D. Create polygons and record their perimeters and areas.

E. Compare angles.

F. Apply geometry to practical, everyday situations.

Possible manipulatives include: geoboards, dot paper, clay, toothpicks, marshmallows, mirrors, color tiles, straws and pipe cleaners.

IX. Measurement

The student will investigate and develop the process of measurement and concepts related to nonstandard, customary (English) and metric units.

The student will select an appropriate unit of measurement, estimate and solve application and nonroutine problems involving length, capacity, weight, volume, time and temperature with standard and nonstandard units.

Possible manipulatives include: nonstandard measures such as unifix cubes, paper clips and containers; standard measures such as balance scales, rulers, tape measures, cups and spoons, geoboards, thermometers, coins and clocks.

X. Statistics and Probability

The student will investigate statistics and probability using appropriate materials.

The student will:

A. Collect, organize, record and interpret data gathered from practical, everyday situations.

B. Construct and interpret graphs.

C. Explore data displays such as tables and charts.

D. Use simple probability to predict and draw conclusions about possible outcomes.

Possible manipulatives include: graph mats, grid paper, unifix cubes and two-color counters.

XI. Fractions and Decimals

The student will use manipulatives to develop concepts of fractions, mixed numbers and decimals.

The student will:

A. Identify, compare and order fractional parts and decimal parts.

B. Demonstrate equivalent fractions and mixed numbers.

C. Develop computational skills in adding and subtracting fractions with like denominators and decimals of the same place value.

Possible manipulatives include: fraction circles and bars, pattern blocks, base-10 blocks, decimal squares, coins and paper bills.

MATHEMATICS
Grade 5

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Use problem-solving approaches and technology to investigate and understand mathematical content.

B. Formulate problems from everyday and mathematical situations.

C. Develop and apply strategies to solve a variety of routine and nonroutine problems.

D. Verify and interpret results with respect to the original problem.

II. Mathematics as Communication

The student will:

A. Relate manipulatives, pictures and diagrams to mathematical ideas.

B. Relate everyday language to mathematical language and symbols.

III. Mathematics as Reasoning

The student will:

A. Draw conclusions based on mathematical ideas and concepts.

B. Use manipulatives, models, known facts, properties and relationships to explain thinking processes.

C. Justify answers and solution processes.

D. Use patterns and relationships to analyze mathematical situations.

IV. Mathematics as Connections

The student will:

A. Develop the link of conceptual ideas to abstract procedures.

B. Relate various concrete and pictorial models of concepts and procedures to one another.

C. Recognize relationships among different topics in mathematics.

D. Use mathematics in other curriculum areas.

E. Use mathematics in daily life.

CONTENT SKILLS

V. Number Sense and Number Theory

The student will:

A. Develop an understanding of the decimal and fraction number system through the use of technology and modeling.

B. Compare fractions to decimals and decimals to fractions.

C. Order decimals and fractions.

D. Demonstrate the relationship of the four basic operations.

E. Recognize the need to expand numbers to include fractions.

F. Demonstrate factors, primes and multiples with concrete materials.

G. Demonstrate the use of common percents (e.g., 25%, 50%, 75%).

H. Establish number sense (e.g., comparisons, size and effects of operations on numbers).

VI. Computation and Estimation

Computational facility (paper-and-pencil approaches) is important, but other methods such as estimation, mental math and technology are appropriate. The use of manipulatives to build concepts of basic operations is also important.

The student will:

A. Know when an estimate is appropriate and use estimates in practical, everyday situations.

B. Compute whole number and decimal operations and add and subtract fractions.

VII. Patterns and Functions

The student will:

A. Discover, describe and extend a wide variety of patterns using tables, graphs, rules and models.

B. Use the calculator and computer to explore patterns and develop elementary function concepts (e.g., use function machines to demonstrate "What is the rule?").

C. Use number patterns to discover properties of prime, composite, odd and even whole numbers and to devise divisibility rules for divisors 2, 3, 5 and 10.

VIII. Algebraic Concepts

The student will:

A. Represent data collected during problem-solving situations using tables, graphs, verbal rules and symbols.

B. Use the basic properties of arithmetic (e.g., commutative, associative, distributive).

C. Use concrete models to simulate algebraic problem-solving techniques (e.g., subtracting the same number from both sides).

IX. Statistics and Probability

The student will:

A. Collect, organize and analyze data.

B. Explain the decisions that need to be made before constructing a graph.

X. Geometry

The student will:

A. Identify, describe, compare and classify geometric figures (e.g., polygons, circles, three-dimensional shapes) and their parts using appropriate geometric terminology.

B. Identify, analyze and compare relationships among angles.

XI. Measurement

The student will:

A. Measure an attribute (e.g., time, temperature, length, weight, capacity) using the appropriate tool.

B. Convert given measures within the same measurement system (e.g., inches to feet).

C. Apply measurement concepts and rounding techniques to application problems involving length, weight and capacity.

MATHEMATICS
INTRODUCTION

Grades 6 - 8

These skills describe processes for doing mathematics as well as mathematical content which should be studied. Students in the middle grades must study a broad curriculum expanding their knowledge of numbers, computation, estimation, measurement, geometry, statistics, probability, patterns and functions and the fundamental concepts of algebra.

Instruction in the middle grades should include activities in which the students actively work to pose and solve problems both individually and together. Learning tools such as concrete models, fraction manipulatives, algebra tiles, geoboards, calculators and computers are beneficial and should be available to all students.

MATHEMATICS
Grade 6

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Develop and test strategies to solve practical, everyday problems which may have single or multiple answers.

B. Evaluate results to determine their reasonableness.

C. Apply a variety of strategies (e.g., trial and error, diagrams, making the problem simpler) to solve problems, with emphasis on multistep and nonroutine problems.

D. Use oral, written, concrete, pictorial, graphical and/or algebraic methods to model mathematical situations.

II. Mathematics as Communication

The student will:

A. Translate a mathematical idea from one form to another (e.g., oral, written, pictorial, concrete, graphical, algebraic).

B. Use listening, reading and visual skills to discuss, interpret and evaluate mathematical ideas.

C. Reflect on and justify his/her reasoning in mathematical problem-solving (e.g., convince, demonstrate, formulate).

D. Select and use appropriate terminology when discussing mathematical concepts and ideas.

III. Mathematics as Reasoning

The student will:

A. Identify patterns and use experiences and observations to make suppositions.

B. Extend patterns and use experiences and observations to make suppositions.

IV. Mathematics as Connections

The student will:

A. Apply mathematical strategies to solve problems that arise from other disciplines.

B. Demonstrate the ability to relate one area of mathematics to another.

CONTENT SKILLS

V. Number Sense and Number Theory

The student will:

A. Explain the relationships among whole numbers, fractions, decimals and percents.

B. Use special numbers such as prime numbers, composite numbers, square and cubic numbers, common factors and common multiples.

C. Increase understanding of fraction relationships involving comparisons, equivalence and simplification.

D. Compare and order positive rational numbers (e.g., whole numbers, fractions, decimals).

E. Develop common referents for quantities used in everyday situations (e.g., reasonable weights and heights for common objects, "What is a million?").

VI. Computation and Estimation

Computational facility (paper-and-pencil approach) is important, but other methods such as estimation, mental math and technology are appropriate. The use of manipulatives to build concepts of basic operations is also important.

The student will:

A. Justify the selection of an operation in solving a problem.

B. Apply the basic arithmetic operations on whole numbers and decimals in problem-solving applications using appropriate methods.

C. Add and subtract fractions in problem-solving applications using appropriate methods.

D. Apply estimation techniques in determining whether solutions are reasonable.

E. Multiply and divide fractions using concrete models.

VII. Patterns and Functions

The student will:

A. Discover, describe, extend and create a wide variety of patterns using tables, graphs, rules and models.

B. Experiment with number patterns to discover properties of prime, composite, odd and even whole numbers.

C. Use patterns to develop and demonstrate the concepts of Greatest Common Factor (GCF) and Least Common Multiple (LCM).

VIII. Algebraic Concepts

The student will:

A. Represent data symbolically using tables, graphs, verbal rules and equations.

B. Use basic properties of arithmetic.

C. Solve simple linear equations and develop the basic concept of a variable (e.g., $n + 3 = 7$).

IX. Statistics and Probability

The student will:

A. Collect, organize and interpret data to solve problems.

B. Construct and interpret graphs of statistical data, utilizing appropriate technology when available.

X. Geometry

The student will:

A. Describe relationships between geometric figures using congruency, similarity and the basic transformations (slide, turn and flip).

B. Develop a working knowledge of the concepts of perimeter, circumference, area and volume.

XI. Measurement

The student will:

A. Give a reasonable estimate of measurement for a given item in both customary (English) and metric units.

B. Compare and convert a given measurement to another unit within the same measurement system.

C. Compute measurements of combined units using appropriate methods.

D. Select and use appropriate tools for measurements in practical applications.

MATHEMATICS
Grade 7

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Develop and test strategies to solve practical, everyday problems which may have single or multiple answers.

B. Use technology to solve problems.

C. Evaluate results to determine their reasonableness.

D. Apply a variety of strategies (e.g., trial and error, diagrams, making the problem simpler) to solve problems, with emphasis on multistep and nonroutine problems.

E. Use oral, written, concrete, pictorial, graphical and/or algebraic methods to model mathematical situations.

II. Mathematics as Communication

The student will:

A. Translate a mathematical idea from one form to another (e.g., oral, written, pictorial, concrete, graphical, algebraic).

B. Use listening, reading and visual skills to discuss, interpret and evaluate mathematical ideas.

C. Reflect on and justify his/her reasoning in mathematical problem-solving (e.g., convince, demonstrate, formulate).

D. Select and use appropriate terminology when discussing mathematical concepts and ideas.

III. Mathematics as Reasoning

The student will:

A. Identify and extend patterns and use experiences and observations to make suppositions.

B. Use given facts, models and logical arguments to validate a supposition.

C. Use counterexamples to disprove suppositions (e.g., "All squares are rectangles, but are all rectangles squares?").

IV. Mathematics as Connections

The student will:

A. Apply mathematical strategies to solve problems that arise from other disciplines.

B. Demonstrate the ability to relate one area of mathematics to another.

CONTENT SKILLS

V. Number Sense and Number Theory

The student will:

A. Convert between fractions, decimals, whole numbers and percents using the most appropriate method.

B. Investigate the concept of squares and square roots (e.g., using geometric models and/or technology).

C. Compare and order positive and negative integers.

D. Develop the concept of proportion and ratio with concrete models.

VI. Computation and Estimation

Computational facility (paper-and-pencil approach) is important, but other methods such as estimation, mental math and technology are appropriate. The use of manipulatives to build concepts of basic operations is also important.

The student will:

A. Use the basic arithmetic operations on whole numbers, fractions, mixed numbers and decimals in problem-solving applications, using appropriate methods and/or technology.

B. Estimate solutions to problems using decimals, fractions and percents.

VII. Patterns and Functions

The student will:

A. Discover, describe, extend and create a wide variety of patterns using tables, graphs, rules and models.

B. Incorporate patterns and functions to represent and solve routine and nonroutine problems.

C. Use patterns to identify and classify geometric shapes and properties and deduce basic logical relationships between polygons.

D. Apply the order of operations and note the applications to calculators and computers.

VIII. Algebraic Concepts

The student will:

A. Develop an understanding of the concepts of variable, expression and equation using concrete materials and models.

B. Write and solve simple linear equations from problem situations and check the reasonableness of the results.

IX. Statistics

The student will:

A. Collect, organize and analyze data and construct the appropriate statistical instrument (e.g., graph, table, chart).

B. Compare different graphic representations of the same data and determine the appropriateness of the graph.

C. Identify and apply mean, median, mode and range in a variety of contexts.

X. Probability

The student will:

A. Determine the extent to which results of a sample can be generalized to a population.

B. Predict the probability given data from a sample.

XI. Geometry

The student will:

A. Integrate geometric concepts to solve occupational and practical, everyday problems, (e.g., art, architecture, construction).

B. Classify geometric figures according to their shapes and properties.

C. Apply a working knowledge of basic perimeter, circumference, area and volume formulas in problem-solving applications.

XII. Measurement

The student will:

A. Incorporate estimation into problem-solving involving measurement.

B. Make conversions within a measurement system in problem-solving applications (e.g., feet to inches, minutes to seconds).

PRIORITY ACADEMIC STUDENT SKILLS

MATHEMATICS
Grade 8

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will:

A. Develop and test strategies to solve practical, everyday problems which may have single or multiple answers.

B. Use technology to generate and analyze data to solve problems.

C. Formulate problems from situations within and outside of mathematics and generalize solutions and strategies to new problem situations.

D. Evaluate results to determine their reasonableness.

E. Apply a variety of strategies (e.g., trial and error, diagrams, making the problem simpler) to solve problems, with emphasis on multistep and nonroutine problems.

F. Use oral, written, concrete, pictorial, graphical and/or algebraic methods to model mathematical situations.

II. Mathematics as Communication

The student will:

A. Translate a mathematical idea from one form to another (e.g., oral, written, pictorial, concrete, graphical, algebraic).

B. Use listening, reading and visual skills to discuss, interpret and evaluate mathematical ideas.

C. Reflect on and justify his/her reasoning in mathematical problem-solving (e.g., convince, demonstrate, formulate).

D. Select and use appropriate terminology when discussing mathematical concepts and ideas.

III. Mathematics as Reasoning

The student will:

A. Identify and extend patterns and use experiences and observations to make suppositions.

B. Use counterexamples to disprove suppositions (e.g., 2^4 is equal to 4^2 but 3^2 is not equal to 2^3).

C. Use given facts, models and logical arguments to validate a supposition.

IV. Mathematics as Connections

The student will:

A. Apply mathematical strategies to solve problems that arise from other disciplines.

B. Demonstrate the ability to relate one area of mathematics to another.

CONTENT SKILLS

V. Number Sense and Number Theory

The student will :

A. Compare and order positive and negative rational and irrational numbers.

B. Identify and write problems using ratio and proportion.

VI. Computation and Estimation

Computational facility (paper-and-pencil approach) is important, but other methods such as estimation, mental math and technology are appropriate. The use of manipulatives to build concepts of basic operations is also important.

The student will:

A. Estimate and then solve applications.

B. Use ratio and proportions to solve a variety of problems.

VII. Patterns and Functions

The student will:

A. Discover, describe, extend, analyze and create a wide variety of patterns using tables, graphs, rules and models.

B. Discover special characteristics of relationships (e.g., relationships among area, perimeter and volume; relationships between operations on integers and operations on whole numbers; relationships between negative exponents and place value) using concrete materials and technology.

VIII. Algebraic Concepts

The student will:

A. Solve linear equations using concrete, informal and formal methods.

B. Graph linear functions on a coordinate plane.

C. Solve a simple inequality and graph the solution on a number line.

IX. Statistics

The student will:

A. Distinguish between the basic use and misuse of statistical representations and inferences.

B. Select and apply appropriate formats in the presentation of collected data.

C. Calculate and determine the most appropriate statistic among the mean, median, mode and range.

X. Probability

The student will:

A. Predict possible outcomes through experiments or simulations.

B. Use permutations and combinations in applications of probability.

XI. Geometry

The student will incorporate congruence, similarity and transformation into problem-solving skills.

XII. Measurement

The student will:

A. Integrate measurement into other areas of mathematics.

B. Use the concept of rate (e.g., distance in relation to time, pay in relation to hours worked).

INTRODUCTION

Grades 9 - 12

The Priority Academic Student Skills in mathematics for grades nine through twelve establish a framework for a curriculum that reflects the needs of all students. Such a curriculum recognizes that they will spend their adult lives in a society increasingly dominated by technology and quantitative methods.

A broadened view of mathematics will include the traditional topics of algebra, geometry, trigonometry and functions, but it must also include the mathematical processes of problem-solving, communication, reasoning and connections. Although they are stated separately here for emphasis, these process skills should be integrated throughout the high school core curriculum.

A school's curriculum in mathematics should be organized to permit all students to progress as far into the mathematics proposed here as their achievement with the skills allows. **This material does not constitute an outline for specific courses;** numerous possibilities exist for integrating the topics discussed here. Schools should use this material to create a curriculum most beneficial to their students. Before graduation, all students must study at least the mathematics designated in this document as core skills. Those students continuing their mathematics education must study the appropriate extended core.

The curriculum is intended to provide a common body of mathematical ideas accessible to all students. It is recognized that students entering high school differ in many ways, including mathematical achievement, but it is believed these differences are best addressed by extensions of the proposed content rather than by deletions.

The increasing role of technology in instruction will alter the teaching and learning of mathematics. Calculators and computers must be integrated throughout the curriculum so that students will concentrate on the problem-solving process as well as the calculations associated with problems. As computers and calculators become accessible to more educators and students, the appropriate technology could transform the mathematics classroom into a laboratory setting where students will investigate, analyze and verify their findings.

MATHEMATICS

Grades 9 - 12

PROCESS SKILLS

I. Mathematics as Problem-Solving

The student will incorporate mathematical problem-solving strategies to solve problems from within and outside mathematics.

The student will:

A. Apply problem-solving strategies to other disciplines and real-world situations.

B. Identify the problem from a described situation, determine the necessary data and apply the appropriate problem-solving strategy.

II. Mathematics as Communication

The student will use mathematical language and symbols to read and write mathematics and to converse with others.

The student will:

A. Demonstrate mathematical ideas orally and in writing.

B. Analyze mathematical definitions and discover generalizations through investigations.

III. Mathematics as Reasoning

The student will use logical reasoning skills in mathematical contexts and real-world situations.

The student will:

A. Prepare and evaluate suppositions and arguments.

B. Draw conclusions and identify counterexamples in mathematical context.

C. Justify mathematical statements through proofs.

IV. Mathematics as Connections

The student will appraise mathematics as an integrated whole and use mathematical concepts in other disciplines.

The student will:

A. Link mathematical ideas to the real world.

B. Apply mathematical problem-solving skills in other curriculum areas.

C. Use mathematics in daily life.

D. Relate one area of mathematics to another.

CONTENT SKILLS

V. ALGEBRA

The student will use algebraic concepts, symbols and skills to analyze, represent and solve a variety of problems.

The student will:

Core Skills

A. Communicate effectively using algebraic vocabulary.

B. Differentiate between expressions, equations and inequalities and will perform the appropriate operation to evaluate or implement a solution.

C. Represent situations that involve variable quantities with expressions, equations, inequalities and matrices.

D. Use tables and graphs as tools to interpret expressions, equations and inequalities.

E. Use calculators, computers or other technology to investigate and generalize algebraic concepts.

F. Apply algebraic processes to become a creative mathematical problem solver in real-life situations.

G. Recognize and use the connections between algebra, other mathematics, and other disciplines.

H. Use the appropriate set of numbers to test the reasonableness of their conclusions.

I. Develop an understanding of the various number systems through investigation and analysis of their properties.

Extended Core Skills

J. Demonstrate depth, breadth and sophistication in each of the algebra skills.

VI. GEOMETRY

The student will learn the fundamentals of geometry from several perspectives and select the appropriate form or forms to represent situations and solve problems.

The student will:

Core Skills

A. Use common geometric figures and their properties in solving problem situations by:

1. drawing and analyzing two- and three-dimensional figures;
2. using properties of two- and three-dimensional figures to determine unknown values;
3. determining and using the relationships of congruency and similarity;
4. deducing properties and relationships of figures from given assumptions and information;
5. applying geometric models in problem situations.

B. Use algebraic methods in coordinate and transformational geometry (reflections, rotations and translations) to:

1. translate between plane and coordinate geometry;
2. deduce properties of figures;
3. identify congruent and similar figures.

Extended Core Skills

C. Incorporate vectors into the study of geometry by:

1. deducing properties of figures using vectors;
2. using transformations (reflections, rotations and translations), coordinates and vectors in problem-solving.

D. Develop an understanding of the foundations (e.g., postulates, theorems) through investigation and comparison of various geometries.

VII. FUNCTIONS

The student will identify the important mathematical role functions perform and will use them to solve real-world problems.

The student will:

Core Skills

A. Recognize functions as an expression of relationships between different quantities by:

1. using tables, verbal rules, equations and graphs to represent and analyze relationships;
2. interpreting information among tabular, symbolic and graphical representations of functions;
3. predicting the effects of parameter changes on the graphs of functions.

B. Use functions to analyze real-world problems by:

1. describing phenomena with a variety of functions;
2. recognizing that a variety of problem situations can be modeled by the same type of function.

Extended Core Skills

C. Perform operations on classes of functions and describe their general properties and behavior.

VIII. STATISTICS

The student will use statistical methods to investigate, represent and analyze real-world problems.

The student will:

Core Skills

A. Sample, organize and interpret data, recognizing the role these play in making statistical claims.

B. Use various models to describe real-world data.

IX. PROBABILITY

The student will use probability to represent and solve problems.

The student will:

Core Skills

A. Use experimental or theoretical probability, as appropriate, to represent and solve problems.

B. Use simulations to estimate probabilities.

C. Generate and interpret probability distributions.

D. Interpret real-world applications of probability.

X. TRIGONOMETRY

The student will demonstrate a variety of techniques and technology in applying trigonometry to solve mathematical and real-world problems.

The student will:

Core Skills

A. Use trigonometric relations and functions to solve problems involving right triangles.

B. Recognize the connections between trigonometry, geometry and algebra.

Extended Core Skills

C. Relate periodic phenomena to trigonometric and circular functions.

D. Understand the connection between trigonometric and circular functions.

E. Apply general graphing techniques to trigonometric functions.

F. Solve trigonometric equations and verify trigonometric identities.

G. Understand the connections between trigonometric functions and polar coordinates, complex numbers and series.

XI. CALCULUS

The student will interpret the mathematics involving the study of change.

The student will:

Core Skills

A. Determine maximum and minimum points of a graph and interpret the results in problem situations.

B. Recognize limiting processes by investigating infinite sequences and series and areas under curves.

Extended Core Skills

C. Understand the conceptual foundations of limit, the area under a curve, the rate of change and the slope of a tangent line and their applications in other disciplines.

D. Analyze the graphs of polynomial, rational, radical and transcendental functions (e.g., trigonometric, logarithmic, exponential).

Science

Grades 1 - 12

SCIENCE

OVERVIEW

The Priority Academic Student Skills for science identify what Oklahoma students should demonstrate at specified grade levels in this core curriculum area. Oklahoma educators should include the science processes with content-based instruction to develop a complete science curriculum.

To reach a high level of achievement in science, it is necessary to focus on learning and teaching the processes of science as well as the content of science. As a general pattern, the skills proceed from lower to higher thinking skills. In addition, each grade area builds on skills emphasized by prior grade levels. Thus, it is necessary to repeat some of the skills at the various levels to assure that continuous development of skills occurs as the depth of content and the thinking skills increase. Other skills that are not listed at subsequent grade levels are implied to be a part of the total science learning sequence.

Science literacy is demonstrated through observing and measuring, classifying, experimenting, interpreting, communicating, modeling relationships and practicing science safety. In order for students to become proficient in these skills, it is necessary to focus on learning and teaching processes. Students must be active participants in their own science education. Implementation of these Priority Academic Student Skills should assure consistent basic standards throughout the schools of Oklahoma.

SCIENCE

Grades 1, 2, 3

The Priority Academic Student Skills should be presented throughout the early grades and are to be learned with **Earth/Space, Life and Physical Science** applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Make descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.

C. Use an appropriate unit when measuring an object, organism or event.

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be grouped.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Use observable properties to classify a set of objects, organisms or events.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

SCIENCE

Grade 4

The Priority Academic Student Skills should be presented throughout grade four and are to be learned with Earth/Space, Life and Physical Science applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.

C. Use an appropriate unit when measuring an object, organism or event.

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Use observable properties to classify a set of objects, organisms or events.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will arrange the steps of a scientific problem in the proper sequential order.

The student will:

A. Predict what might happen in a given scientific problem.

B. Follow steps of a scientific problem in the proper order.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Interpret pictorial, bar and circle graphs.

B. Collect and report data using appropriate methods.

C. Make appropriate predictions for given patterns of evidence.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Describe the properties of an object or event in sufficient detail so another person can identify it.

B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Interpret line, bar and circle graphs.

B. Collect and report data in an appropriate method.

C. Select appropriate predictions for given patterns of evidence.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Describe the properties of an object or event in sufficient detail so another person can identify it.

B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE

Grade 5

The Priority Academic Student Skills should be presented throughout grade five and are to be learned with Earth/Space, Life and Physical Science applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes when given conditions before, during or after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units: grams, meters, liters and degrees Celsius).

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Use observable properties to classify a set of objects, organisms or events.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will arrange the steps of a scientific problem in the proper sequential order.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Collect and report data in an appropriate method.

B. Interpret line, bar and circle graphs.

C. Select the appropriate predictions based on observed patterns of evidence.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Describe the properties of an object or event in sufficient detail so another person can identify it.

B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE

Grade 6

The Priority Academic Student Skills should be presented throughout grade six and are to be learned with Earth/Space, Life and Physical Science applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Use observable properties to classify a set of objects, organisms or events.

D. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will arrange the steps of a scientific problem in the proper sequential order.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Collect and report data in an appropriate method.

B. Select appropriate predictions based on observed patterns of evidence.

C. Interpret line, bar and circle graphs.

D. Select the most logical conclusion for given experimental data.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Describe the properties of an object or event in sufficient detail so another person can identify it.

B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE

Grade 7

The Priority Academic Student Skills should be presented throughout grades seven and are to be learned with Earth/Space, Life and Physical Science applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Use observable properties to classify a set of objects, organisms or events.

D. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

- A. Arrange the steps of a scientific problem in the proper sequential order.
- B. Identify a simple variable and/or control in an experimental set-up.
- C. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

- A. Collect and report data in an appropriate method when given an experimental procedure or information.
- B. Interpret line, bar and circle graphs.
- C. Select the most logical conclusion for given experimental data.
- D. Accept or reject hypotheses when given results of an investigation.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

- A. Describe the properties of an object or event in sufficient detail so another person can identify it.
- B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

- A. Recognize potential hazards within a given activity.
- B. Practice safety procedures in all science activities.

SCIENCE
Grade 8

The Priority Academic Student Skills should be presented throughout grade eight and are to be learned with **Earth/Space, Life and Physical Science** applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

- A. Identify similar or different characteristics in a given set of objects, organisms or events.
- B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.
- C. Identify qualitative and quantitative changes given conditions before, during and after an event.
- D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

- A. Identify properties by which a set of objects, organisms or events could be ordered.
- B. Select a sequential order for each property within a set of objects, organisms or events.
- C. Identify the properties on which a given classification system is based.
- D. Use observable properties to classify a set of objects, organisms or events.
- E. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

A. Arrange the steps of a scientific problem in the proper sequential order.

B. Identify a simple variable and/or control in an experimental set-up.

C. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Collect and report data in an appropriate method when given experimental procedure or information.

B. Predict data points not included on a given graph.

C. Interpret line, bar and circle graphs.

D. Select the most logical conclusion for given experimental data.

E. Accept or reject hypotheses when given results of an investigation.

V. Communicating

Communication is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Describe the properties of an object or event in sufficient detail so another person can identify it.

B. Complete or create an appropriate graph or chart from collected data.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE
Grade 9

The Priority Academic Student Skills should be presented throughout grade nine and are to be learned with Life, Earth/Space, Physical Science, Biology, Chemistry and Physics applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Identify the properties on which a given classification system is based.

D. Use observable properties to classify a set of objects, organisms or events.

E. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

A. Arrange the steps of a scientific problem in the proper sequential order.

B. Identify the independent variables, dependent variables and control in an experimental set-up.

C. Use mathematics to show basic relationships within a given set of observations.

D. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Select appropriate predictions based on previously observed patterns of evidence.

B. Collect and report data in an appropriate method when given an experimental procedure or information.

C. Predict data points not included on a given graph.

D. Interpret line, bar and circle graphs.

E. Identify data which support or reject stated hypotheses.

F. Accept or reject hypotheses when given results of an investigation.

G. Identify discrepancies between stated hypotheses and actual results.

H. Select the most logical conclusion for given experimental data.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Select an appropriate written description of events depicted by a diagram.

B. Describe the properties of an object or event in sufficient detail so another person can identify it.

C. Identify, complete or create an appropriate graph or chart from collected data, table or written description.

VI. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE
Grade 10

The Priority Academic Student Skills should be presented throughout grade ten and are to be learned with **Life, Earth/Space, Physical Science, Biology, Chemistry** and **Physics** applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Identify the properties on which a given classification system is based.

D. Use observable properties to classify a set of objects, organisms or events.

E. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

A. Arrange the steps of a scientific problem in the proper sequential order.

B. Identify the independent variables, dependent variables and control in an experimental set-up.

C. Use mathematics to show basic relationships within a given set of observations.

D. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Select appropriate predictions based on previously observed patterns of evidence.

B. Collect and report data in an appropriate method when given an experimental procedure or information.

C. Predict data points not included on a given graph.

D. Interpret line, bar and circle graphs.

E. Identify data which support or reject stated hypotheses.

F. Accept or reject hypotheses when given results of an investigation.

G. Identify discrepancies between stated hypotheses and actual results.

H. Select the most logical conclusion for given experimental data.

V. Communicating

Communicating is the process of describing, recording and reporting experimental procedures and results to others. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Select an appropriate written description of events depicted by a diagram.

B. Describe the properties of an object or event in sufficient detail so another person can identify it.

C. Identify, complete or create an appropriate graph or chart from collected data, table or written description.

VI. Modeling

Modeling is the active process of forming a mental or physical representation from data, patterns or relationships to facilitate understanding and enhance prediction.

The student will:

A. Select a model which explains a given set of observations.

B. Select predictions based on models.

C. Compare a given model to the real world.

VII. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCES
Grade 11

The Priority Academic Student Skills should be presented throughout grade eleven and are to be learned with Life, Earth/Space, Physical Science, Biology, Chemistry and Physics applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Identify the properties on which a given classification system is based.

D. Use observable properties to classify a set of objects, organisms or events.

E. Place an object organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

A. Arrange the steps of a scientific problem in the proper sequential order.

B. Identify the independent variables, dependent variables and control in an experimental set-up.

C. Use mathematics to show basic relationships within a given set of observations.

D. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Select appropriate predictions based on previously observed patterns of evidence.

B. Collect and report data in an appropriate method when given an experimental procedure or information.

C. Predict data points not included on a given graph.

D. Interpret line, bar and circle graphs.

E. Identify data which support or reject stated hypotheses.

F. Accept or reject hypotheses when given results of an investigation.

G. Identify discrepancies between stated hypotheses and actual results.

H. Select the most logical conclusion for given experimental data.

V. Communicating

Communication is the process of describing, recording and reporting to others experimental procedures and results. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Select an appropriate written description of events depicted by a diagram.

B. Describe the properties of an object or event in sufficient detail so another person can identify it.

C. Complete or create an appropriate graph or chart from collected data.

VI. Modeling

Modeling is the active process of forming a mental or physical representation from data, patterns or relationships to facilitate understanding and enhance prediction.

The student will:

A. Select a model which explains a given set of observations.

B. Select predictions based on models.

C. Compare a given model to the real world.

VII. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

SCIENCE

Grade 12

The Priority Academic Student Skills should be presented throughout grade twelve and are to be learned with Life, Earth/Space, Physical Science, Biology, Chemistry and Physics applications.

I. Observing and Measuring

Observing is the first action taken by the learner to acquire new information about an object or event. Opportunities for observations are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified.

The student will:

A. Identify similar or different characteristics in a given set of objects, organisms or events.

B. Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.

C. Identify qualitative and quantitative changes given conditions before, during and after an event.

D. Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units.)

II. Classifying

Classifying establishes order. Objects, organisms and events are classified based on similarities, differences and interrelationships.

The student will:

A. Identify properties by which a set of objects, organisms or events could be ordered.

B. Select a sequential order for each property within a set of objects, organisms or events.

C. Identify the properties on which a given classification system is based.

D. Use observable properties to classify a set of objects, organisms or events.

E. Place an object, organism or event into a classification system.

III. Experimenting

Experimenting is the sequential method of discovering information. It requires making observations and measurements to test ideas against facts.

The student will:

A. Arrange the steps of a scientific problem. in the proper sequential order

B. Identify the independent variables, dependent variables and control in an experimental set-up.

C. Use mathematics to show basic relationships within a given set of observations.

D. Identify a hypothesis for a given problem.

IV. Interpreting

Interpreting is the process of making predictions and hypotheses using data collected in an investigation. With these skills students will develop conclusions.

The student will:

A. Select appropriate predictions based on previously observed patterns of evidence.

B. Collect and report data in an appropriate method when given an experimental procedure or information.

C. Predict data points not included on a given graph.

D. Interpret line, bar and circle graphs.

E. Identify data which support or reject stated hypotheses.

F. Accept or reject hypotheses when given results of an investigation.

G. Identify discrepancies between stated hypotheses and actual results.

H. Select the most logical conclusion for given experimental data.

V. Communicating

Communicating is the process of describing, recording and reporting to others experimental procedures and results. Communication may be oral or written and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations and mathematical equations.

The student will:

A. Select an appropriate written description of events depicted by a diagram.

B. Describe the properties of an object or event in sufficient detail so another person can identify it.

C. Identify, complete or create an appropriate graph or chart from collected data, table or written description.

VI. Modeling

Modeling is the active process of forming a mental or physical representation from data, patterns or relationships to facilitate understanding and enhance prediction.

The student will:

A. Select a model which explains a given set of observations.

B. Select predictions based on models.

C. Compare a given model to the real world.

VII. Safety in the Science Classroom

Safety is an essential part of any science activity. Safety in the classroom and care of the environment are individual and group responsibilities.

The student will:

A. Recognize potential hazards within a given activity.

B. Practice safety procedures in all science activities.

Social Studies

Elementary Social Studies - Grades 1-4

Geography - Grade 5

U.S. History/Government - Grade 5

Oklahoma History - Grades 6-12

Civics - Grades 6-8

Economics - Grades 6-8

United States History - Grades 6-8

World Geography - Grades 6-8

World History - Grades 6-8

Government - Grades 9-12

Economics - Grades 9-12

United States History - Grades 9-12

World Geography - Grades 9-12

World History - Grades 9-12

SOCIAL STUDIES

OVERVIEW

The Priority Academic Student Skills for Social Studies describe what Oklahoma students should know and be able to do in social studies. The Priority Academic Student Skills for Social Studies are not intended to describe in detail every concept that is to be learned. Rather, they are meant to be used by schools in developing a social studies program appropriate for the needs of their students.

The Priority Academic Student Skills for Social Studies are based on the following:

Students will:

1. Demonstrate a knowledge of the interrelationships among individuals and their environment in the state of Oklahoma, the United States and the world in the past, present and future.
2. Analyze the fundamental beliefs which resulted in the Declaration of Independence, the United States Constitution and the Bill of Rights, and which form the basis of the constitutional system of government of the United States.
3. Use the knowledge, beliefs and skills such as thinking, decision making and problem solving, learned in the social studies as a basis for action in a democratic society.
4. Analyze the diversity and commonality among nations, races, cultures and institutions.

SOCIAL STUDIES
Grade 1

The student will:

I. **Identify the need, function and location of school personnel and facilities.**

   A. Identify the various school personnel, including principal, secretary, custodian, counselor, librarian, nurse, cook and teacher, and their tasks within the school setting.

   B. Use a map of the school to determine specific places in the school.

II. **List biographical data, describe the roles within family units and explain the importance of family responsibility.**

   A State his/her full name, address, telephone number, birthdate and name of parent or guardian.

   B. Explain the roles of family members and the importance of family responsibilities.

III. **Describe the ways people live and their cultures by identifying how children within the class, in the local community and around the world have needs in common and are also unique as to languages, food, clothing and shelter.**

IV. **Identify the responsibilities of citizenship and explain how these are related to democratic beliefs within the family and school.**

   A. Demonstrate understanding and respect for the rights of others.

   B. Explain how national holidays, symbols and patriotic leaders reflect democratic beliefs.

V. **Locate and interpret information using resource materials that are appropriate for first grade students.**

   A. Locate information using literature and pictorial dictionaries.

   B. Interpret visual sources of information such as maps, graphs, charts and pictures.

SOCIAL STUDIES
Grade 2

The student will:

I. **Describe major historical landmarks and geographic features of neighborhoods.**

   A. Identify different kinds of housing.

   B. Identify major historical landmarks of neighborhoods.

   C. Describe the natural features of the earth.

   D. Identify means of transportation.

II. **Explain the growth and development of neighborhoods.**

   A. Explain how changes occur in neighborhoods over a period of time.

   B. Explain ways individuals meet their needs and wants.

   C. Give examples of ways that neighborhood pride is demonstrated.

   D. Describe the occupations of people in the neighborhood who provide goods and services.

III. **Describe the role of citizenship in neighborhoods.**

   A. Explain how customs and local, state, and national holidays encourage citizenship participation.

   B. Explain and demonstrate good citizenship.

IV. **Explain the need for rules in schools and neighborhoods and explain how people have the responsibility to work together to solve school and neighborhood problems.**

V. **Locate and interpret information using materials that are appropriate for second grade students.**

   A. Make and use maps, graphs, charts and tables.

   B. Locate places on a map and globe.

   C. Locate information using literature, pictorial dictionaries and grade-appropriate encyclopedias.

SOCIAL STUDIES
Grade 3

The student will:

I. **Explain the influence of geography on the development of communities.**

   A. Describe the natural and cultural features that have influenced the growth of communities.

   B. Compare and contrast different types of communication and transportation used by communities.

   C. Describe how people change their environments.

   D. Describe natural and cultural areas within communities.

II. **Evaluate the responsibilities of citizens in communities.**

   A. Explain leadership roles in the school and the community.

   B. Identify characteristics of effective citizenship.

III. **Describe the ways citizens build and maintain their communities.**

   A. Identify the needs of people in communities and explain how these needs are met.

   B. Propose solutions for community problems.

IV. **Describe ways in which communities change.**

   A. Describe the historical development of selected cities.

   B. Describe the factors influencing change in communities.

V. **Locate and interpret information using a broad selection of resource materials.**

   A. Locate information using atlases, dictionaries and literature.

   B. Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and political cartoons.

   C. Construct maps, charts, graphs and tables.

SOCIAL STUDIES
Grade 4

The student will:

I. **Identify the major physical regions of Oklahoma.**

   A. Locate Oklahoma and surrounding states on a national map.

   B. Compare state climates, landforms and natural resources.

   C. Describe ways that geography affects history.

   D. Explain the ways in which economic and natural resources impact the growth of Oklahoma.

II. **Describe the major events in the history of Oklahoma** by identifying the major historical events in the growth and development of Oklahoma.

III. **Identify and describe the five major regions (Northeast, Southern, Midwestern, Rocky Mountain, Pacific Coastal) of the United States.**

   A. Label the fifty states and major cities.

   B. Compare and contrast the climates, landforms and natural resources of each region.

   C. Analyze the effect of geography on the course of each region's history.

IV. **Describe the duties of citizenship at the local, county and state levels.**

   A. Identify the basic organization of local, county and state governments.

   B. Describe the role of effective state citizenship.

V. **Identify various ethnic and cultural groups and explain their contributions to Oklahoma's heritage.**

   A. Research the leadership qualities, achievements and ethnic origins of famous Oklahomans.

   B. Examine likenesses and differences of various cultural groups that have contributed to the development of Oklahoma.

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C. Identify geographic areas of Oklahoma populated by various cultural groups.

VI. **Locate and interpret information using a broad selection of resource materials and technology.**

A. Locate information using encyclopedias, almanacs, atlases, dictionaries, literature and technical media.

B. Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and cartoons.

C. Design and construct maps, charts, graphs, tables and cartoons using data.

SOCIAL STUDIES
Grade 5
Geography

The student will:

I. **Explain the influence of geography on the cultural development of the United States.**

A. Locate and match the states with their climatic regions, landforms and bodies of water.

B. Analyze how geography affects political, economic and cultural development.

C. Compare and contrast how human and natural resources affect all aspects of American life.

II. **Recognize the sequence of historical events, the role of historical personalities and the impact of these events and personalities on contemporary issues by sequencing the major events in the territorial expansion of the nation in the nineteenth century.**

III. **Identify the cultural and ethnic groups which have contributed to America's heritage.**

A. Identify people who made major contributions to the development of the United States.

B. Locate and analyze the geographic areas in the United States populated by various ethnic groups.

IV. **Locate and interpret information using a broad selection of resource materials.**

A. Locate information using encyclopedias, almanacs, atlases, dictionaries and literature.

B. Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and cartoons.

C. Design and construct maps, graphs, charts, tables and political cartoons using data from the United States and Oklahoma.

SOCIAL STUDIES
Grade 5
United States History/Government

The student will:

I. **Explain the influence of geography on the cultural development of the United States by locating and describing the states, major climatic regions, landforms and bodies of water.**

II. **Recognize the sequence of historical events, the role of historical personalities and the impact of these events and personalities on contemporary issues.**

   A. Describe the patterns of early settlement through the colonial period.

   B. Identify major events of the Revolutionary War period.

   C. Identify the causes and effects of the Civil War.

III. **Interpret the basic ideals expressed in the historical documents which have contributed to the growth of our nation.**

   A. Identify the reasons for writing the Declaration of Independence and the Constitution.

   B. Explain the influence that these documents have on citizens today.

   C. Identify the rights and responsibilities of citizens in a democratic society and a free enterprise system.

IV. **Identify the cultural and ethnic groups which have contributed to America's heritage and examine the lives and contributions of famous Americans including their leadership qualities and ethnic origin.**

V. **Locate and interpret information using a broad selection of resource materials.**

   A. Locate information using encyclopedias, almanacs, atlases, dictionaries and literature.

   B. Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and cartoons.

   C. Design and construct maps, graphs, charts, tables and political cartoons using data from the United States and Oklahoma.

SOCIAL STUDIES
Grades 6-12
Oklahoma History

The student will:

I. **Describe both European and American exploration of and claims to the territory that would become Oklahoma.**

II. **Describe the economic development of Oklahoma's natural and human resources.**

   A. Describe the environment, locate landforms and identify the major natural resources within the state.

   B. Explain the evolution of the market economy in Oklahoma with an emphasis on the impact of the "boom and bust" cycle.

III. **Describe significant aspects of Oklahoma's social and cultural development of the state and identify important individuals and groups in Oklahoma's social, cultural, and religious heritage.**

IV. **Describe the development of constitutional government in Oklahoma.**

   A. Describe the development of constitutional government among the Indian tribes of Oklahoma and the movement for the all-Indian state of Sequoyah.

   B. Explain the movement for single statehood and the impact and influence of the Constitutional Convention.

V. **Analyze the impact citizens have had in shaping the political and social events in Oklahoma.**

   A. Identify political trends, major events and personalities affecting the development of Oklahoma.

   B. Analyze major issues that have shaped state politics since statehood.

VI. **Evaluate the social, economic and political development of Native Americans from prehistoric settlement through modern times.**

   A. Identify and describe significant phases of prehistoric cultures.

   B. Trace the movement of tribal groups into Oklahoma.

C. Compare and contrast cultural values of Native Americans and European Americans.

D. Trace the transition of the Indian Territory from communally owned land to privately owned land.

VII. Identify major ethnic groups and minorities and trace their contributions throughout the history of Oklahoma.

A. Describe the role of women in the economic, political and social development of the state.

B. Identify immigration, settlement patterns and cultural, political and economic contributions of African Americans, Hispanic Americans, Asian Americans and other distinctive ethnic groups in Oklahoma.

C. Identify ethnic and minority individuals who have contributed to the economic, political and social development of the state.

SOCIAL STUDIES
Grades 6-8
Civics

The student will:

I. Evaluate the impact that individuals have upon their surroundings and analyze the influences of economic principles on the system of government of the United States.

II. Identify and explain the basic rights and responsibilities of citizenship.

A. Identify individual rights found in the Constitution including its amendments.

B. Identify the need for law and government and explain the beliefs on which democratic government is based.

III. Describe the characteristics of local, state and national governments and how they compare to other governments.

A. Identify the interrelationship of federal, state, county and municipal governments.

B. Evaluate the impact of government on the lives of Oklahomans and how Oklahomans can effect change in government.

C. Define the concept of separation of powers and describe its effect upon our three branches of government.

IV. Evaluate how the political process works and describe the election process involved in national, state and local governments including the role of political parties in the United States.

V. Describe the ethnic and cultural diversity of the population of the United States and analyze the ways that different ethnic and cultural groups are protected under the Constitution.

VI. Use the skills of critical thinking necessary for analysis of governmental concepts.

A. Make a distinction among propaganda, fact and opinion; identify cause and effect relationships; and draw conclusions.

B. Interpret and analyze political cartoons, graphs and charts.

Economics

The student will:

I. **Explain economic beliefs that served as a foundation for the development of the economic system of the United States** and explain the role of the government in the economy.

II. **Describe wise economic choices using economic situations involved in everyday life** and describe a citizen's role in society as both a producer and a consumer.

III. **Describe major features of the modified market economy.**

  A. Describe how the forces of supply and demand interact to determine the prices of goods and services.

  B. Explain how money is used as a medium of exchange.

United States History

The student will:

I. **Identify the political growth, major events and personalities affecting the development of the United States.**

  A. Identify and analyze major events, causes, effects and the role of significant personalities of the Revolutionary War.

  B. Trace the growth of sectional conflict between 1820 and the Civil War: Missouri Compromise, the Compromise of 1850, the Kansas-Nebraska Act and the Dred Scott Decision.

  C. Analyze the significance of the Civil War and Reconstruction.

II. **Analyze the creation and judicial interpretations of the historical documents on which our government is founded and examine** documents which contributed to the establishment and growth of the United States government.

III. **Identify and describe events, trends and movements which shaped social and cultural development in the United States.**

  A. Identify major ethnic groups in the United States (including African Americans, Asian Americans, European Americans, Hispanic Americans, Native Americans) and trace their political, economic and cultural contributions throughout the history of the United States.

  B. Describe the role of women in the development of the United States.

IV. **Analyze events and identify personalities that influenced the development of United States foreign policy** and explain how Manifest Destiny determined the territorial expansion of the United States in the Louisiana Purchase, the Texas Annexation, the Mexican Cession and the Oregon Territory.

V. **Identify and describe the characteristics and major factors contributing to the growth of the American economy.**

  A. Recognize the economic conflict between the industrial North and the agrarian South which led to the Civil War.

  B. Describe the growth of the West and analyze its effect on the American way of life.

  C. Explain the impact of the Industrial Revolution on the United States.

World Geography

The student will:

I. **Identify and describe the physical patterns and processes of the biosphere, the layer of the earth in which life exists.**

  A. Identify forces beneath the crust that shape the earth, explaining the processes and agents that shape the physical features on the earth.

  B. Identify various biomes (the community of plants and animals that live in a particular climate) of the world.

  C. Determine the major weather phenomena of the world and the effect of latitude, elevation, prevailing wind and proximity to bodies of water on climate.

II. **Assess the impact of humans on the biosphere.**

  A. Relate human population growth to world atmospheric changes.

  B. Give an example of the effects of industrialization and transportation on the environment.

III. **Locate and describe world culture patterns.**

  A. Describe common characteristics of the major regions of the world: United States and Canada, Latin America, Europe and the former Soviet Union, North Africa and the Middle East, Sub-Saharan Africa, South Asia, East Asia, Southeast Asia and Oceania.

  B. Analyze demographic and cultural characteristics of the major regions.

  C. Compare and contrast the ways of living in developed and developing countries relative to economic, political and technological systems.

IV. **Analyze contemporary world issues.**

  A. Identify the major natural resources that support industrial societies and describe their world distribution, international trade patterns and future availability.

  B. Compare and contrast population growth rates of industrialized and non-industrialized countries.

  C. Recognize ethnic diversity within political units and major cultural regions.

V. **Identify and use maps, graphs and statistical sources.**

  A. Identify and draw conclusions from different kinds of maps, charts, graphs or pictorial materials based on geographical data.

  B. Identify and locate the fifty states of the United States, capitals, major cities and countries of the world.

  C. Identify basic landforms and water bodies, given definitions or pictorial representations.

VI. **Read and interpret geographic information, using a variety of sources, and communicate that information in both written and oral form.**

  A. Collect data about a geographic issue from a variety of sources, formulate conclusions and present findings.

  B. Evaluate different solutions to geographic problems.

World History

The student will:

I. **Evaluate the impact of geography on civilizations of the world** and describe the effect of geography on economic and political systems and on the movement of people and ideas.

II. **Analyze the major conflicts, events and contributions of individuals** and describe the impact of major historical events and figures on past and present societies.

III. **Identify and describe the world's major economic and political systems and the impact of major technological revolutions** and identify the impact of significant scientific and technological changes on society.

IV. **Identify and describe events, trends and movements which have shaped the social and cultural development of the major nations of the world** and identify major contributions of world civilizations in art, music, architecture and literature.

V. **Trace the development and influence of various religious, moral and philosophical ideologies** and identify major world religions and how they influenced the development and growth of nations.

SOCIAL STUDIES
Grades 9-12
Government

The student will:

I. **Analyze the relationship of the political process to the individual as a citizen of the state and the nation.**

A. Identify the historical and philosophical development of government as an institution.

B. Evaluate the impact of government on the lives of the citizens of the United States and how citizens can effect change in local, state and national government.

C. Analyze the characteristics and functions of political parties in the United States from their inception to the present.

II. **Identify and explain the rights and responsibilities of citizens of the United States.**

A. Identify individual rights found in the Constitution including its amendments.

B. Explain and demonstrate a citizen's responsibility to the community.

III. **Describe the characteristics of local, state and national governments and how they compare to other governments.**

A. Analyze the United States Constitution, the documents which preceded its adoption and the evolving interpretations of the Constitution.

B. Explain the role of the executive, legislative and judicial branches of government at the federal, state and local levels.

C. Explain the concept of separation of powers, including checks and balances and its importance in a democratic system.

D. Compare and contrast the government of the United States to governments of other countries.

IV. **Analyze how the political process works.**

A. Describe the electoral process.

B. Identify and analyze the political, economic and leadership factors affecting decision making at all government levels in the United States.

Economics

The student will:

I. **Analyze the historical development of the United States economic system.**

A. Trace the growth of industry in the United States.

B. Describe the historical effects of the business cycle upon the economy.

II. **Analyze the economic beliefs that served as a foundation for the development of the economic system of the United States and analyze the role of the government in the economy.**

III. **Describe wise economic choices using economic situations involved in everyday life and illustrate a citizen's role in society as both a producer and a consumer.**

IV. **Describe major features of the modified market economy.**

A. Assess how the forces of supply and demand interact to determine the prices of goods and services.

B. Explain how money is used.

V. **Examine the effects of international economic policies upon the economy of the United States.**

A. Explain the benefits and problems of international trade.

B. Define and analyze major economic systems of the world.

United States History

The student will:

I. **Identify the political growth, major events and personalities affecting the development of the United States.**

A. Chart the growth of sectional conflict between 1820 and the Civil War: the Missouri Compromise, the Compromise of 1850, the Kansas-Nebraska Act and the Dred Scott Decision.

B. Evaluate the significance of the Civil War and Reconstruction.

II. **Identify and describe events, trends and movements which shaped social and cultural development in the United States.**

A. Analyze social reform movements including the organized labor movement which began during the late nineteenth century.

B. Describe social events and identify significant personalities which contributed to the advancement of civil and human rights.

C. Recognize major ethnic groups in the United States (including African Americans, Asian Americans, European Americans, Hispanic Americans, Native Americans) and their political, economic and cultural contributions throughout the history of theUnited States.

D. Describe the role of women in the development of the United States.

E. Recognize contributions of citizens of the United States in the fine arts and humanities.

III. **Analyze events and identify personalities that influenced the development of United States foreign policy.**

A. Identify and analyze the major events leading to emergence of the United States as a world power.

B. Recognize the events leading to the involvement of the United States in World War I and analyze the effects of the war.

C. Analyze the causes and effects of World War II.

D. Describe the involvement of the United States in major international incidents and military conflicts of the postwar era.

IV. **Identify and describe the characteristics and major factors contributing to the growth of the American economy.**

A. Recognize the economic conflict between the industrial North and the agrarian South which led to the Civil War.

B. Analyze the growth of the West and its effect on the American way of life.

C. Measure the impact of the Industrial Revolution on the United States.

D. Analyze the causes and effects of the Great Depression.

E. Identify the changing role of government through New Deal policies to the present.

World Geography

The student will:

I. **Identify and describe the physical patterns and processes of the biosphere, the layer of the earth in which life exists.**

A. Distinguish the forces beneath the crust that shape the earth, explaining the processes and agents that shape the physical features on the earth.

B. Identify and locate various biomes (the community of plants and animals that live in a particular climate) of the world.

C. Assess and make inferences regarding the major weather phenomena of the world and the effect of latitude, elevation, wind and proximity to bodies of water on climate.

II. **Assess the impact of humans on the biosphere.**

A. Evaluate the impact of human population on atmospheric changes.

B. Assess the effects of industrialization on the environment.

III. **Locate and describe world culture patterns.**

A. Describe common characteristics of the major regions of the world: United States and Canada, Latin America, Europe and the former Soviet Union, North Africa and the Middle East, Sub-Saharan Africa, South Asia, East Asia, Southeast Asia and Oceania.

B. Analyze demographic and cultural characteristics of the major regions.

C. Distinguish between the ways of living in developed and developing countries relative to economic, political and technological systems.

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IV. **Analyze contemporary world issues.**

A. Evaluate the major natural resources that support industrial societies and describe their world wide distribution, international trade patterns and future availability.

B. Analyze the difference between the population growth rates of the industrialized and nonindustrialized countries of the world.

C. Identify diversity within major cultural regions and how it has often resulted in conflict.

D. Compare the basic principles of democracy in the context of current world events.

V. **Identify and use maps, graphs and statistical sources.**

A. Draw conclusions from different kinds of maps, charts, graphs or pictorial materials based on geographical data.

B. Identify and locate the fifty states of the United States, capitals, major cities and countries of the world.

C. Identify basic landforms and water bodies, given definitions or pictorial representations.

VI. **Read and interpret geographic information, using a variety of sources, and communicate that information in both written and oral form.**

A. Analyze data about geography from a variety of sources.

B. Generate and evaluate different solutions to geographic problems.

World History

The student will:

I. **Evaluate the impact of geography on civilizations of the world.**

A. Describe the physical setting of historical and current events.

B. Analyze the effect of geography on economic and political systems and on the movement of people and ideas.

C. Identify reasons for the growth and development of interdependence among nations.

II. **Analyze the major conflicts, events and contributions of individuals.**

A. Identify causes, effects and resolutions of national and international wars and civil unrest.

B. Evaluate the impact of major historical events and figures on past and present societies.

III. **Identify and describe the world's major economic and political systems and the impact of major technological revolutions.**

A. Analyze the development of economic systems from prehistoric agrarian societies through the growth of feudalism to the rise of modern capitalism.

B. Explain how scientific and technological changes have had a major impact on society.

IV. **Identify and describe events, trends and movements which have shaped the social and cultural development of major world societies.**

A. Identify major contributions of world civilizations in art, music, architecture and literature.

B. Analyze current and historical events from a multicultural perspective.

V. **Trace the roots of totalitarian systems and the foundations of modern democratic systems and compare and contrast modern representative democracy to its historical antecedents.**

VI. **Analyze recurring world issuesand examine current events and trace these events to their historical antecedents.**

VII. **Trace the development and influence of various ideologies.**

A. Describe the origins and impact of major world religions.

B. Describe the development of major philosophical movements of western and eastern civilizations.

The Arts
Grades 1 - 12

Visual Art

General Music

THE ARTS

Overview

Instruction in the arts as part of the core curriculum should be implemented sequentially by individuals knowledgeable in the arts, using a variety of arts resources and materials. Sequential instruction enables exploration of beginning concepts, terminology and experiences, then builds toward increasingly more complex skills and knowledge.

Arts instruction strengthens creative thinking skills and helps children learn the most basic forms of communication. Children are able to increase knowledge and understanding of the culture, traditions and people of our country and those in other nations, by studying the arts.

The Priority Academic Student Skills in the arts included in this document list skills and knowledge in visual art and general music identified by committees of educators and others knowledgeable about the arts. Arts instruction based on a combination of producing works of art and music, and learning about various types and styles of art and music serves as the basis of a strong arts curriculum for every student.

VISUAL ART
Grades 1-3

The student will:

A. Exhibit a beginning art vocabulary with the acquisition and use of appropriate art terms.

B. Name, describe and identify selected qualities of line, color, shape, texture and space.

C. Use a variety of subjects, materials (media) and techniques in making original art.

D. Experiment in color mixing with various materials (media).

E. Engage in creative drawing, painting, designing, sculpting, constructing, weaving and printmaking.

F. Demonstrate beginning skills of composition (arrangement) in his/her own art work, including variation of size and shape, color and contrast, space arrangement and texture.

G. Discuss art works by using the elements of design: line, color, form, shape, texture and space.

H. Discuss art works by using the principles of design: rhythm, balance, contrast, movement, variety, center of interest and repetition.

I. Demonstrate recall of observations of visual qualities in the environment through verbal, written or pictorial response.

J. Identify several art media such as drawing, painting, weaving, sculpture and architecture.

K. Identify other art forms such as music, dance and drama.

L. Recognize the relationship of art to other curriculum content areas.

M. Describe similarities and differences in works of art produced in various times and places.

VISUAL ART
Grades 4-5

The student will:

A. Exhibit a beginning art vocabulary which expands through the acquisition and use of appropriate art terms.

B. Plan and use a variety of subjects, materials (media) and techniques in making original art.

C. Recognize a variety of sources of ideas and content for art work.

D. Demonstrate the use of simple perspective (showing depth on a flat surface.)

E. Demonstrate a growing awareness of the visual world through verbal, written and pictorial expression.

F. Compare and describe works of art with respect to the material and process used to create them.

G. Analyze and use the principles of design: rhythm, balance, contrast, movement, variety, center of interest and repetition in works of art.

H. Analyze and use the elements of design: line, color, form, shape, texture and space in works of art.

I. Discuss observations of visual and expressive features seen in the environment (such as colors, textures, shapes, etc.).

J. Recognize similarities and differences between visual art and other art forms, such as music, dance and drama.

K. Identify uses of visual art in an historical and cultural context.

L. Recognize the development of art throughout history.

M. Demonstrate a growing knowledge of artists and their works in several fields such as painting, sculpture, photography, commercial art, architecture and fiber arts.

N. Identify uses of the visual arts in today's world including the popular media of advertising, television and film.

O. Describe displays of original artwork seen in the community.

VISUAL ART

Grades 6-8

The student will:

A. Express individual ideas while making original art, using a variety of art materials (media).

B. Develop skills and techniques in using a wide variety of art media, tools and processes.

C. Recognize and utilize a variety of sources of ideas and content for his/her own art work, e.g., observation, memory, imagination.

D. Depict the three-dimensional qualities indicated by overlapping planes, vertical position, size and color intensity.

E. Analyze and begin to evaluate the principles of design: rhythm, balance, contrast, movement, variety, center of interest, and repetition in his/her own work and the works of others.

F. Analyze and begin to evaluate the relationship of the elements of design: line, color, form, shape, texture and space in his/her own work and the works of others.

G. Compare works which are similar in expressive quality, composition and style.

H. Demonstrate knowledge of and express opinions about works of art of different forms, media and styles and begin to justify choices.

I. Explain the purposes of art and its relationship to society.

J. Recognize and describe the cultural and ethnic traditions which have influenced the visual arts.

K. Compare and contrast the development of art throughout history.

L. Explain the role of art and artists in society and in the local community.

M. Identify the variety of art forms used in business and industry, including possible vocations and professions that may be associated with such art forms.

N. Analyze the relationship that exists between visual art and other art forms such as music, dance and drama.

O. Evaluate and adjust his/her own art work in progress based on an understanding of the elements and principles of design.

P. Recognize and compare two- and three-dimensional forms that are natural and man-made.

Q. Analyze and demonstrate uses of the visual arts in today's world including the popular media of advertising, television and film.

VISUAL ART

Grades 9-12

The student will:

A. Identify relationships between a work of art and the cultural context in which it functions.

B. Describe the philosophy underlying several major art movements or historical periods.

C. Analyze and evaluate visual works of art using appropriate art vocabulary and concepts.

D. Compare the visual and expressive qualities of forms (aesthetic structure) observed in the natural and man-made world (such as colors, shapes, light and dark, etc.).

E. Justify choices in works of art with regard to aesthetic quality, beyond statements of mere preference, in both verbal and written form.

F. Analyze the relationships that exist between visual art and other disciplines of the arts such as drama, music and dance.

G. Compare cultural and ethnic art forms throughout the world which have influenced the visual arts.

H. Recognize and describe current trends in art that reflect social, economic, political and cultural conditions.

I. Locate and utilize a wide variety of art resource materials.

J. Describe exhibitions of original works of art seen in the community.

K. Identify major national and world collections of art.

L. Analyze the interrelationship of the elements and principles of design in his/her own work and the art work of others.

M. Analyze the three-dimensional qualities of forms related to the function and purpose for which it was made.

N. Describe how natural phenomena, such as light, distance, atmosphere, position and motion affect our visual decisions and use of the principles and elements of design.

O. Explain how value (light and dark), perspective, composition and movement change the visual image.

P. Differentiate between art criticism and art reviews, recognizing that criticism is positive as well as negative in its evaluation of a work of art.

Q. Recognize and explain how artists communicate ideas through content and/or intent.

R. Create works of art with a variety of art media and explore avenues of expression.

S. Create works of art which explore open-ended and individual problem-solving situations.

T. Demonstrate the ability to use a variety of tools to create two- and three-dimensional works.

U. Create works of art from observation, memory and imagination.

V. Prepare a portfolio (collection) of his/her original art work.

W. Identify and investigate the range of visual art careers and the knowledge, skills and discipline which are necessary to pursue a career.

X. Demonstrate individuality in the creation of artworks.

Y. Demonstrate understanding of uniqueness in his/her own work as well as the work of others.

GENERAL MUSIC

Grades 1-3

The student will:

A. Participate in music through singing and/or playing instruments.

B. Sing using an acceptable tone with appropriate musical expression.

C. Sing a varied repertoire (selections) of folk, ethnic, classical and contemporary songs.

D. Respond to the beat or rhythm in music by clapping, walking, running, skipping, playing classroom instruments or chanting.

E. Play simple pitch patterns (tones) on instruments, such as bells or xylophones.

F. Play simple rhythmic patterns on classroom percussion instruments to accompany songs and rhythm activities.

G. Recognize and interpret basic rhythm patterns by using rhythm syllables.

H. Begin to recognize the basic features (such as form, sound or progression of single tones [i.e., melodic contour], and expressive qualities) of familiar and unfamiliar songs by studying their notation (written representation of musical tones).

I. Use a system of syllables, numbers or letters for reading notation.

J. Practice appropriate concert behavior (i.e., sitting still, listening quietly, etc.).

K. Respond to unfinished short melodic patterns using voice or classroom instruments.

L. Recognize the difference between long and short sounds; repeated and contrasting phrases; slow and fast tempos; simple meters; major and minor, loud and soft and high and low sounds.

M. While listening to a musical piece, use directional hand movements to follow the melodic contour (sound or progression of single tones).

N. Recognize the tone quality of basic wind, string and percussion instruments.

O. Notate (write) short, simple tone and rhythm patterns.

P. Identify a variety of composers and music, and begin to make historical connections (styles, periods and cultures) to the music.

GENERAL MUSIC

Grades 4-5

The student will:

A. Participate in music through singing and/or playing instruments.

B. Sing or play musical pieces, reflecting an understanding of tonal and rhythmic elements.

C. Perform basic tonal patterns and rhythm patterns on classroom instruments.

D. Conduct songs in simple meter.

E. Sing or play a variety of folk, ethnic, classical and contemporary musical pieces in unison and two parts.

F. Recognize and interpret basic notational symbols for tonal (pitch patterns) and rhythmic patterns and musical forms.

G. Continue the use of a systematic approach to melodic reading (arrangement of sound) using syllables, numbers, and/or letters in major and natural minor modes.

H. Continue the use of a system for counting beat and rhythm using rhythm syllables and body movement.

I. Demonstrate growth in the ability to sing or play music from notation (written representation of music).

J. Demonstrate appropriate concert behavior (i.e., sitting still, listening quietly, etc.).

K. Experiment with variations in and demonstrate understanding of tempo (speed), timbre (sound quality), dynamics (degree of loudness) and phrasing for expressive purposes.

L. Use traditional and nontraditional sound sources, including electronic, to compose simple musical pieces.

M. Listen to and demonstrate a understanding of rhythm by responding physically or with the use of rhythm instruments.

N. Notate simple pitch and rhythm patterns presented aurally (listening).

O. Listen to and describe music from a variety of styles, periods and cultures.

P. Use correct terminology to discuss the characteristics of a work, including melody, rhythm, meter, key, form, expressive qualities and style.

Q. Recognize and identify by listening, musical forms, orchestral instruments and classification of voice (e.g., soprano, tenor, bass, etc.).

R. Identify a variety of composers and music, and make historical connections (styles, periods and cultures) to the music.

GENERAL MUSIC
Grades 6-8

The student will:

A. Participate in music through singing and/or playing instruments.

B. Sing with an acceptable tone quality throughout his/her singing ranges or play an instrument with an acceptable tone quality throughout an appropriate range.

C. Sing or play a varied repertoire (selections) of folk, ethnic, classical and contemporary musical pieces.

D. Perform musical pieces in at least two parts.

E. Play a variety of rhythmic or melodic instruments.

F. Employ pitch syllables, numbers or letter names to perform melodic passages.

G. Employ rhythm syllables to perform rhythmic passages.

H. Perform simple melodies in treble or bass clef at sight.

I. Use standard notation (pitch, form, rhythm, articulation, dynamics) to perform a musical piece.

J. Demonstrate appropriate concert behavior (i.e., sitting still, listening quietly, etc.).

K. Compose simple music using traditional and/or nontraditional sound sources, including electronic.

L. Experiment with and demonstrate understanding of variations in tempo (speed), timbre (sound quality), dynamics (degree of loudness) and phrasing for expressive purposes.

M. Notate short melodies (both pitch and rhythm) presented aurally (while listening).

N. Follow a single line of standard notation (written representation of music) while listening to music.

O. Listen to and evaluate his/her own music performances and progress using appropriate musical terminology.

P. Analyze and discuss music performed and heard in terms of musical elements (pitch, rhythm, texture, form and basic chord progressions).

Q. Employ an appropriate vocabulary of musical terms to analyze music.

R. Analyze, compare, and contrast music from a variety of styles, periods and cultures.

S. Identify a variety of composers and music, and make historical connections (styles, periods and cultures) to the music.

GENERAL MUSIC

Grades 9-12

The student will:

A. Participate in music through listening, singing and/or playing instruments.

B. Demonstrate a knowledge of a varied repertoire (selections) of folk, ethnic, classical and contemporary music.

C. Demonstrate appropriate concert behavior (i.e., sitting still, listening quietly, etc.).

D. Visually and aurally (by listening) identify a variety of electronic, orchestral and other acoustic instruments.

E. Through performance and/or critical listening, demonstrate an understanding of proper vocal production, range and acceptable tone quality.

F. Identify by name and function standard notational symbols (written representation of music) for pitch, rhythm, articulation and dynamics.

G. Use standard notation (written representation of music) as a guide to listening, singing or playing music.

H. Use an appropriate vocabulary of musical terms (e.g., pitch, rhythm, texture, form, dynamics) to analyze and discuss music performed and heard.

I. Identify a variety of composers and their music, when presented musical or written examples.

J. Integrating historical connections, examine the music of various composers representing a variety of musical styles, periods and cultures.

K. Analyze, compare, and contrast music from a variety of styles, periods and cultures.

L. Utilize nonverbal media (such as visual art or movement) to describe musical structure and to respond to music.

M. Play at least three chords (a combination of two or more tones sounded simultaneously) on an instrument such as guitar, ukulele, keyboard or autoharp-type instrument.

N. Create simple music using traditional or nontraditional sound sources.

O. Experiment with and demonstrate understanding of variations in tempo (speed), timbre (sound quality), dynamics (degree of loudness) and phrasing for expressive purposes.

P. Use appropriate musical terminology to evaluate his/her own musical performances and progress.

Languages

Grades K - 12

Foreign Languages
Native American Languages
American Sign Language

LANGUAGES

(Foreign, Native American and/or American Sign Language)

To meet the intent of the languages mandate of House Bill 1017, all districts must implement a program of study of at least one language other than English in the curriculum. Language(s) selection is determined by each district.

Languages Awareness (Grades K-3) is to be a program through which children gain the insight that other languages exist besides their own. It is an enrichment program and not intended to lead to any proficiency skills in the language(s) studied. Ideally, the child will be exposed to several languages/cultures through content, such as colors, numbers, greetings, etc.

Grades 4-6 is to be the beginning of a sequential language program through which the student begins to develop actual communication skills in a particular language. The program will be carefully sequenced from grade to grade so that skills and knowledge can be achieved and demonstrated.

Grades 7-12 provide continued sequencing of instruction for in-depth language competencies. School districts can offer long-term sequential programs in more than one language. It is important to realize that language skills are best developed when a sequential experience in the *same* language is provided.

The guidelines which follow serve as a range of proficiency levels in a sequential language program:

Grades K-3	Awareness
Grades 4-12	Introductory
	Beginning I
	Beginning II
	Intermediate I
	Intermediate II
	Advanced

LANGUAGES

Proficiency Level—Introductory

At the end of the Introductory Proficiency Level of studying a language in its cultural context, students will recognize some similarities and differences between the target culture and their own.

I. Speaking

At the Introductory level, repetition, frequent pauses and production errors can be expected.

The student will:

- Use isolated words and learned phrases (two or three words at a time).
- Use vocabulary which is sufficient for handling classroom situations and basic needs.
- Express basic courtesies.

II. Listening/Comprehending

At the Introductory level, repetition, rephrasing, slow rate of speech may be needed for comprehension.

The student will:

- Understand short, learned statements, questions, commands and courtesies.

III. Reading/Interpreting

At the Introductory level, phrases and sentences may require a second reading.

The student will:

- Identify learned words and phrases including cognates (words recognizable in two languages and having similar meaning) and borrowed words.

IV. Writing

At the Introductory level, practical writing skills for communication will be minimal.

The student will:

- Copy or transcribe familiar words or phrases and reproduce some from memory.

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LANGUAGES

Proficiency Level—Beginning I

At the end of the Beginning I Proficiency Level of studying a language in its cultural context, students will recognize similarities and differences between the target culture and their own.

I. Speaking

At the Beginning I level, pronunciation may still show strong first language influences. Errors may still be frequent.

The student will:

- Ask simple questions.
- Make statements using learned material.
- Express basic courtesies.
- Use vocabulary which is sufficient to handle classroom situations and basic needs.

II. Listening/Comprehending

At the Beginning I level, repetition, rephrasing, slow rate of speech may be needed for comprehension.

The student will:

- Understand sentence-length expressions, particularly when in context and delivered with clear, audible speech.

III. Reading/Interpreting

At the Beginning I level, short paragraphs may require a second reading. Reading may still be limited to learned vocabulary.

The student will:

- Read standardized messages, phrases or expressions, such as some items on menus, schedules, timetables, maps and signs.

IV. Writing

At the Beginning I level, usage of symbols (letters, characters, accent marks) may be partially correct.

The student will:

- Write simple fixed expressions and limited memorized material.
- Write simple autobiographical information (e.g., name, age, address, telephone number), as well as some short phrases and simple lists (e.g., foods, classroom objects, household items).
- Compose short sentences with guidance.

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LANGUAGES

Proficiency Level—Beginning II

At the end of Beginning II Proficiency Level of studying a language in its cultural context, students will recognize similarities and differences between the target culture and their own.

I. Speaking

At the Beginning II level, the student is usually understood by other target language speakers. Repetition may be needed to avoid misunderstandings.

The student will:

- Ask and answer common questions.
- Respond to simple statements.
- Initiate and sustain limited conversation in social situations.
- Express basic needs, such as introducing self, ordering a meal, asking directions and making purchases.

II. Listening/Comprehending

At the Beginning II level, understanding may be inconsistent. Repetition and rewording may be necessary.

The student will:

- Participate in spontaneous face-to-face conversation about simple autobiographical information (e.g., name, age, address, telephone, school activities), social conventions and routine tasks, such as getting meals and receiving simple instructions and directions.

III. Reading/Interpreting

At the Beginning II level, some misunderstandings will occur, particularly with details.

The student will:

- Read and comprehend main ideas and/or facts from simple materials dealing with basic needs, such as information in advertisements or articles of interest in relevant magazines.

IV. Writing

The student will:

- Create basic statements and questions about learned materials.
- Write short, simple letters, messages, postcards, telephone messages.

LANGUAGES

Proficiency Level—Intermediate I

At the end of Intermediate I Proficiency Level of studying a language in its cultural context, students will recognize similarities and differences between the target culture and their own.

I. Speaking

The student will:

- Talk about familiar topics (e.g., school, weather, food, special interests) in basic conversation.
- Ask and answer questions about basic needs as well as familiar topics (e.g., leisure time activities).

II. Listening/Comprehending

The student will:

- Understand sentence-length speech on a variety of basic topics.
- Understand content dealing with more complex topics, such as lodging, transportation, shopping, personal interests and activities.
- Understand directions and instructions more clearly.
- Understand short routine telephone conversations, simple media messages.

III. Reading/Interpreting

The student will:

- Understand main ideas and facts from materials dealing with basic needs, individual interests and knowledge and learned materials.

IV. Writing

At the Intermediate I level, writing may contain sentences and sentence fragments and may lack organization, but is generally understandable.

The student will:

- Write simple letters using information based on personal experience, daily routine and everyday events.
- Compose simple original material on a given topic using present tense and at least one other tense as appropriate to the target language.

LANGUAGES

Proficiency Level—Intermediate II

At the end of the Intermediate II Proficiency Level of studying a language in its cultural context, students will recognize similarities and differences between the target culture and their own.

I. Speaking

At the Intermediate II level, hesitation while speaking may occur. Repetition may be required.

The student will:

- Initiate, sustain and close a general conversation.

II. Listening/Comprehending

At the Intermediate II level, listening tasks are assumed to take place in an authentic environment at a normal rate of speech. Understanding may be inconsistent.

The student will:

- Understand more information during longer periods of conversation or listening activities.
- Comprehend more main ideas and/or details on a variety of topics.

III. Reading/Interpreting

At the Intermediate II level, authentic, legible reading materials are recommended. Some misinterpretation may occur based on the complexity of the grammar. The student may have to read material several times for comprehension.

The student will:

- Read simple, connected texts about basic needs, materials of personal interest and/ or knowledge.
- Comprehend some main ideas and information from higher-level reading materials.

IV. Writing

The student will:

- Create some original written materials.
- Write simple letters, summaries of biographical data, work and school experience.
- Take notes on familiar topics.

LANGUAGES

Proficiency Level—Advanced

At the end of the Advanced Proficiency Level of studying a language in its cultural context, students will recognize similarities and differences between the target culture and their own.

I. Speaking

At the Advanced level, the student can be understood without difficulty by native or fluent speakers.

The student will:

- Communicate facts and talk casually about topics of current public and personal interest, using general vocabulary.
- Satisfy the requirements of everyday conversations, routine school and work situations.
- Narrate and describe (e.g., events, objects, activities) with some details.
- Participate in spontaneous, face-to-face conversation involving more complicated skills and social situations, such as elaborating, complaining and apologizing.

II. Listening/Comprehending

At the Advanced level, comprehension may be inconsistent due to linguistic and cultural factors, such as tenses, personal space, unfamiliar gestures, slang.

The student will:

- Understand main ideas and most details of oral presentations and conversations (e.g., prepared speeches, news broadcasts, interviews, short lectures).

III. Reading/Interpreting

At the Advanced level, the student understands the main ideas and facts but misses some details.

The student will:

- Read authentic materials, such as selected short stories, poetry and other literary works, articles, personal correspondence and simple technical material written for the general reader.

IV. Writing

At the Advanced Level, writing may resemble literal translations from the student's first language.

The student will:

- Write about a variety of topics (e.g., letters, simple notes, summaries and reports) with significant precision and detail.

Instructional Technology

Grades 1 - 12

INSTRUCTIONAL TECHNOLOGY

Instructional Technology should prepare the student for lifelong learning in a rapidly changing technological society by providing a basic understanding of computer usage, processes and systems. This knowledge is necessary for all students regardless of educational or career goals.

These identified priorities were written to provide utilization of technology throughout the curriculum. These priority skills were purposely designed to be broad in defining the minimum criteria for instructional technology statewide. Each level of technology skill is built upon by previous levels. The areas addressed are:

- operation of the computer.
- using application software as a tool.
- developing problem-solving skills.
- introduction of telecommunications.
- providing awareness through the study of careers, history and use in daily lives.
- recognizing responsibilities in ethical situations.

INSTRUCTIONAL TECHNOLOGY
Elementary Level
Grades 1 - 3

The student will:

I. Demonstrate proper care of hardware and software.

II. Exhibit proper use of hardware and software including turning the computer on/off and inserting/removing disks under teacher direction.

III. Follow verbal and computer-given directions using instructional software to provide tutoring, individual enrichment and/or remediation appropriate to grade level.

IV. Identify and use computer terms appropriate to grade level.

Grades 4 - 5

The student will:

I. Describe the role of computers in the future by studying careers which use computers.

II. Utilize the computer as a communication tool; (e.g., documents, electronic mail, telecommunications).

III. Discuss the ethical use of computers in society.

IV. Develop problem-solving skills through the use of the computer and software which may include simulations, programming or specifically designed problem-solving software.

INSTRUCTIONAL TECHNOLOGY

Secondary Level

Grades 6 - 8

The student will:

I. Identify primary functions of an operating system.

II. Investigate applications of computers in career areas such as industry, business, medicine, government, entertainment and education.

III. Describe legal and ethical issues related to computers including such areas as computer copyright material, privacy, and computer viruses

IV. Describe the growth and development of technology and information systems.

V. Describe the use of application software including database, spreadsheet, telecommunication and word processor.

VI. Access, organize and utilize information with computers.

VII. Participate in the design of a project using multimedia computer technology (e.g., computer, graphics, sound, video) and/or publishing software.

Grades 9 - 12

The student will:

I. Use an operating system to perform functions of file management.

II. Demonstrate proficiency in the ability to create, format, edit, save, retrieve and print documents using the basic functions of a word processor.

III. Demonstrate proficiency in using the computer as a problem-solving tool through the use of application software including, but not limited to database, spreadsheet, word processor or a programming language.

IV. Access and utilize information through the use of telecommunications and/or electronic databases.

V. Participate in the presentation of a multimedia project using computer technology as its primary medium and/or a project using desktop publishing software.

Health/Safety and Physical Education

Grades 1 - 12

HEALTH/SAFETY EDUCATION

Grade 1

The student will:

A. Identify potential safety hazards at home, school and play and name places and people who can provide help.

B. Be introduced to first aid methods for bee stings, burns, bleeding and choking.

C. Identify and describe fire escape routines, seat belt and bicycle helmet use, burn prevention and traffic signs and signals.

D. Explain the need for obeying safety rules at home, school and play (i.e., bicycle, water, fire, vehicle, firearm, bus, playground, pedestrian).

E. Identify the need for medical checkups and other health-care procedures and the role of health-care workers.

F. Name signs and symptoms for eye, ear and dental problems and demonstrate good practices of self-care.

G. Explain the role of breakfast in providing energy for school and play; describe reasons for eating a variety of healthy foods and list their sources.

H. Define the term "drug" and identify "safe" and "unsafe" drugs.

I. Practice refusal skills (saying "no") pertaining to the use of alcohol, nicotine, inhalants and other harmful substances.

J. Practice refusal skills (saying "no") pertaining to contact with strangers.

K. Discuss ways to protect oneself from abuse.

L. Identify appropriate behavior for interacting with others at school and identify positive ways to resolve problems.

M. Name the major parts of the body (e.g., head, trunk and limbs) and describe their functions.

N. Discuss germs and practice methods to reduce the spread of disease.

HEALTH/SAFETY EDUCATION

Grade 2

The student will:

A. Describe potential hazards at home, school and play and describe how to prevent injuries and accidents.

B. Demonstrate first aid methods for bee stings, burns, bleeding and choking.

C. State the reasons for eating a variety of healthy foods and the factors (e.g., newspapers, magazines, television, radio) that influence personal food choices.

D. Describe the difference between prescription and over-the-counter medications and their proper use.

E. Define the term "drug" and identify the dangers of caffeine, alcohol, nicotine, inhalants and other legal and illegal substances.

F. Practice refusal skills (saying "no") pertaining to the use of alcohol, nicotine, inhalants and other potentially harmful substances.

G. Discuss ways to protect oneself from abuse.

H. Identify appropriate behaviors for interacting with others at school and identify positive ways to resolve problems.

I. Name the major organs of the body: heart, lung and brain and describe their functions.

J. Describe the structure, use and care of the eyes, ears and teeth.

K. Define germs and practice methods to reduce the spread of disease.

L. Recognize the difference between communicable (e.g., chicken pox, measles, mumps, common cold) and noncommunicable diseases (e.g., cancer, allergies) and their prevention.

M. Identify "healthy living" choices such as good eating habits, adequate rest and exercise.

HEALTH/SAFETY EDUCATION

Grade 3

The student will:

A. Explain how people can work together to protect and promote a healthy environment.

B. Discuss safety equipment (i.e., seat belts, life jackets, bicycle helmets, ear plugs, safety glasses) which protects from injury.

C. Describe how to become a health-conscious person regarding advertising and choice of consumer products.

D. Describe the effects of alcohol, caffeine, nicotine, inhalants and other harmful substances and how they affect decision making.

E. Practice refusal skills (saying "no") pertaining to the use of alcohol, nicotine, inhalants and other harmful substances.

F. Discuss consequences of acceptable/unacceptable actions at school and demonstrate positive ways to resolve problems and conflicts.

G. State ways to protect oneself from abuse.

H. Recognize individual strengths and the uniqueness of self and others.

I. Recognize body systems: circulatory, digestive, endocrine, excretory, immune, muscular, nervous, reproductive, respiratory and skeletal.

J. Demonstrate precautions to reduce communicable (e.g., chicken pox, measles, mumps, common cold) and noncommunicable diseases (e.g., cancer).

HEALTH/SAFETY EDUCATION

Grade 4

The student will:

A. Locate health information telephone numbers and other health resources.

B. Discuss labeling on packaged products and explain label information for determining healthy consumer choices.

C. Identify types of foods and patterns of eating related to different cultures.

D. Identify foods within each of the basic food groups and select appropriate servings and portions for his/her age.

E. Describe peer resistance skills (e.g., saying "no" to peers offering drugs, alcohol).

F. List healthy leisure-time activities.

G. Discuss adolescent growth and development rates.

H. Identify the relationship between physical well-being and mental health.

I. Identify ways to protect oneself from abuse.

J. Identify and practice positive ways to resolve problems.

K. Identify the impact of media messages.

L. Identify causes of poor dental health (e.g., not brushing or flossing teeth) and name foods and other practices hazardous to teeth.

M. Name and describe the various systems of the body: circulatory, digestive, endocrine, excretory, immune, muscular, nervous, reproductive, respiratory and skeletal.

N. Identify sources and types of communicable diseases (e.g., chicken pox, measles, mumps, common cold) and how they are transmitted.

HEALTH/SAFETY EDUCATION
Grade 5

The student will:

A. Analyze potential hazards at home, school and play; describe methods for prevention and procedures to follow in the event of an emergency.

B. Identify foods within each of the basic food groups and select appropriate servings and portions for his/her age and physical activity levels.

C. Describe and practice refusal skills pertaining to the use of alcohol, nicotine, caffeine, inhalants and other harmful substances.

D. Review ways to protect oneself from abuse.

E. Identify and demonstrate violence prevention skills.

F. Discuss the relationship between physical well-being and mental health.

G. Practice positive ways to resolve problems.

H. Describe the structure and purpose of the body systems: circulatory, digestive, endocrine, excretory, immune, muscular, nervous, reproductive, respiratory and skeletal.

I. Discuss the effects various diseases (e.g., leukemia, cancer, diabetes) have on the body systems.

HEALTH/SAFETY EDUCATION
Grades 6 - 8

The student will:

A. Demonstrate basic first aid skills.

B. Examine how social pressures affect participation in risk-taking activities (e.g., using inhalants, starvation dieting, using steroids).

C. Identify individual and community responsibilities for protecting the environment and promoting community health.

D. Describe the dangers of prescription medication abuse.

E. Describe healthy leisure-time activities (e.g., family outings, sports, board games).

F. Explain the importance of analyzing food labels for content and nutritional value.

G. Interpret physical and mental consequences of a poorly balanced diet and explain how diet choices, based upon food fads, may provide inadequate nourishment.

H. Explain the relationship between caloric intake and level of activity in weight management and describe safe methods of weight control.

I. Describe the risks and destructive effects of alcohol, tobacco, steroids and other drugs on body systems.

J. Describe the effects of drug abuse on the individual, family, community and society.

K. Identify and demonstrate the steps of effective goal setting and decision making.

L. Describe techniques for coping with personal loss.

M. Review ways to protect oneself from abuse.

N. Identify effective ways to resolve problems and prevent violence.

O. Discuss the interrelationship of the body systems: circulatory, digestive, endocrine, excretory, immune, muscular, nervous, reproductive, respiratory and skeletal.

P. Discuss the responsibilities of adolescent parenthood and its effect on future goals.

Q. List prevention methods and risk factors (i.e., alcohol, tobacco, stress, poor nutrition, physical inactivity) that directly contribute to noncommunicable disease including cancer, diabetes and other diseases affecting cardiovascular and respiratory systems.

R. Identify, define and discuss chronic disease (i.e., arthritis, Alzheimers) as it affects the aging population.

HEALTH/SAFETY EDUCATION

Grades 9 - 12

The student will:

A. Illustrate how nutritional requirements vary in relationship to age, gender, physical activity and health conditions.

B. Describe eating disorders and long-term effects.

C. Identify, locate and determine how to access health care services.

D. Establish personal health goals and priorities.

E. Identify and evaluate media messages.

F. Identify and demonstrate ways to protect oneself from abuse.

G. Analyze choices and consequences regarding substance use.

H. Demonstrate refusal skills (saying "no"), negotiation skills and peer resistance skills related to substance use and other unhealthy activities.

I. Practice techniques for decision making and problem solving.

J. Describe the structure and function of the body systems: circulatory, digestive, endocrine, excretory, immune, muscular, nervous, reproductive, respiratory and skeletal.

K. Identify sources of accurate information regarding methods of disease prevention.

L. Evaluate responsibilities related to marriage and parenthood.

M. Explain the basics of child care and child development.

HIV/AIDS Prevention Education

School districts shall make the curriculum and materials that will be used to teach AIDS prevention education available for inspection by the parents and guardians of the students that will be involved with the curriculum and materials. Furthermore, the curriculum must be limited in time frame to deal only with factual medical information for AIDS prevention. The school districts, at least one (1) month prior to teaching AIDS prevention education in any classroom, shall conduct for the parents and guardians of the students involved during weekend and evening hours at least one presentation concerning the curriculum and materials that will be used for such education. 70 O.S. § 11-103.3

No student shall be required to participate in AIDS prevention education if a parent or guardian objects in writing to such participation.
70 O.S. § 11-103.3

1987 Law - H.B. 1476

Parent may remove child from HIV/AIDS prevention education

NOT MANDATED IN H.B. 1017

Grades 7 - 12

The student will:

A. Research and discuss current information about HIV / AIDS in order to differentiate related facts, opinions and myths.

B. Discuss and explain the importance of sexual abstinence in adolescent relationships.

C. Demonstrate refusal skills (saying "no"), negotiation skills and peer resistance skills related to sexual health.

D. Explain the transmission and methods of prevention for sexually transmitted disease (STD) and Human Immunodeficiency Virus (HIV).

E. Identify risk behaviors and situations involving possible exposure to HIV.

F. Discuss the relationships between injecting drug use (IDU) and contact with contaminated blood products and the transmission of HIV.

G. Analyze the efficiency of artificial means of birth control in preventing the spread of HIV and other sexually transmitted diseases.

PHYSICAL EDUCATION

Grade 1

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses.

I. The student will travel, in different directions and speeds, using a variety of locomotor skills in a group without bumping into others or falling.

The student will:

A. Demonstrate body and spatial awareness while stationary or moving, by changing body shapes and levels and by traveling various shaped paths (e.g., straight, curved, zig-zag).

B. Combine various movement patterns to music, but not necessarily in time.

C. Roll smoothly in a forward direction.

D. Perform a log roll without hesitating or stopping.

II. The student will be introduced to the five components of fitness, i.e., muscular strength, muscular endurance, flexibility, body composition and aerobic endurance activities.

The student will:

A. Be introduced to physical activities and their benefits for maintaining fitness and personal well-being.

B. Identify proper and improper stretch exercises.

C. Experience moderate physical activity.

D. Experience vigorous physical activity.

E. Locate heart and lungs and describe their function.

F. Recognize that exercise causes an increase in heart rate.

G. Participate in individual and group fitness activities.

III. The student will participate in a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects, at a developmentally appropriate level.

The student will:

A. Move, demonstrating a variety of relationships with objects (e.g., over, under, behind, alongside, through).

B. Jump a swinging rope held by others.

C. Kick a stationary ball without hesitating, or stopping, prior to the kick.

D. Kick a slowly rolling ball.

E. Self-toss a ball and catch it.

F. Demonstrate the difference between an overhand and underhand throw.

G. Be introduced to evasive techniques (e.g., escaping, catching, dodging).

H. Catch an object gently thrown to him/her.

IV. The student will understand the benefits that accompany sportsmanship, cooperation and following rules.

The student will:

A. Identify appropriate behaviors for participating with others in physical activity.

B. Demonstrate safety skills while participating in physical activity with or without equipment or apparatus.

PHYSICAL EDUCATION

Grade 2

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. **The student will travel, in different directions, using a variety of locomotor skills in a combination of simple motor patterns (e.g., skip, hop, gallop, slide).**

The student will:

A. Demonstrate body and spatial awareness while stationary or moving, by balancing body while in various shapes and extending body into various levels (e.g., jumps, leaps) following desired pathways.

B. Walk forward, backwards and sideways on a line on the floor.

C. Transfer body weight to the hands (e.g., hand stand, pull up, arm hang).

D. Change speeds and directions in response to a variety of rhythms.

E. Combine various movement patterns to music.

F. Roll in a forward direction without hesitating or stopping.

II. **The student will have knowledge of and be able to demonstrate the five components of fitness, i.e., muscular strength, muscular endurance, flexibility, body composition and aerobic endurance activities.**

The student will:

A. Associate physical activities and the benefits for maintaining fitness and personal well-being.

B. Identify proper and improper stretch exercises and will demonstrate proper technique.

C. Experience sustained moderate physical activity.

D. Participate in daily vigorous physical activity.

E. Demonstrate that exercise causes an increase in heart rate.

F. Locate various pulse points.

G. Participate in individual and group fitness activities.

III. **The student will participate in a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects at a developmentally appropriate level.**

The student will:

A. Jump a turned rope held by others, and attempt to jump a rope continuously turned by others.

B. Jump a self-turned rope.

C. Run and kick a stationary ball without hesitating, or stopping, prior to the kick.

D. The student will kick a slowly rolling ball into the air or on the ground, using the inside or instep of the foot.

E. Demonstrate the difference between an overhand and underhand throw utilizing the principle of opposition.

F. Catch an object gently thrown to him/her using proper hand position.

G. Strike a ball with a bat from a tee or cone, using a correct grip and side orientation.

H. Demonstrate evasive techniques (e.g., escaping, catching, dodging).

IV. **The student will understand the benefits that accompany sportsmanship, cooperation and following rules.**

The student will:

A. Practice appropriate behaviors for participating with others in physical activity.

B. Be considerate of others in physical activity settings.

C. Practice safety skills while participating in physical activity with or without equipment or apparatus.

PHYSICAL EDUCATION

Grade 3

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. **The student will travel, in different directions, using a variety of locomotor skills in a combination of simple rhythmic patterns.**

The student will:

A. Demonstrate body and spatial awareness while stationary or moving.

B. Combine intermediate movement patterns to music.

C. Change speeds and directions, in time, to a variety of rhythms.

D. Demonstrate different locomotor skills on a low elevated surface.

E. Move while taking the body weight on the hands (e.g., mule kick, cartwheel, wheelbarrow).

F. Perform a roll in a forward direction without hesitating or stopping for two consecutive rolls.

II. **The student will have knowledge of and be able to perform the five components of fitness, i.e., muscular strength, muscular endurance, flexibility, body composition and aerobic endurance activities.**

The student will:

A. Demonstrate physical activities and the benefits for maintaining fitness and personal well-being.

B. Identify proper and improper stretch exercises and demonstrate proper technique.

C. Sustain moderate physical activity.

D. Participate daily in vigorous physical activity.

E. Locate and name some of the various pulse points.

F. Participate in individual and group fitness activities.

III. **The student will participate in a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects at a developmentally appropriate level.**

The student will:

A. Enter and/or exit a turned rope held by others.

B. Continuously jump a swinging rope held by others.

C. Jump a self-turned rope utilizing basic jump rope skills.

D. Kick a rolling ball using the inside or instep of the foot.

E. Dribble and/or strike a ball towards a target by using various parts of the body.

F. Demonstrate the difference between an overhand and underhand throw utilizing the principle of opposition with accuracy and control.

G. Catch an object gently thrown to him/her from various distances using proper hand position.

H. Consistently strike a ball with a bat from a tee or cone, using a correct grip and side orientation.

I. Demonstrate evasive techniques (e.g., escaping, catching, dodging).

IV. **The student will understand the benefits that accompany sportsmanship, cooperation and following rules.**

The student will:

A. Practice and distinguish between appropriate and inappropriate behaviors for participating with others in physical activity.

B. Be considerate of others in physical activity settings.

C. Practice safety while participating in physical activity with or without equipment or apparatus.

PHYSICAL EDUCATION

Grade 4

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. **The student will perform various intermediate locomotor and nonlocomotor skills in a combination of rhythmic activities.**

The student will:

A. Participate in intermediate rhythmic activities involving physical movement with or without music.

B. Balance safely on a variety of objects (e.g., balance beams, benches).

C. Transfer weight from feet to hands at fast and slow speeds (e.g., mulekick, handstand, cartwheel).

D. Perform basic tumbling skills using proper form.

E. Recognize and participate in games and rhythms of various cultures.

II. **The student will have knowledge of and be able to perform the five components of fitness, i.e., muscular strength, muscular endurance, flexibility, body composition and aerobic endurance activities.**

The student will:

A. Describe and participate in physical activity associated with healthy lifelong skills.

B. Participate in aerobic activity for a specified time.

C. Learn to monitor heart rate.

D. Support, lift and control body weight in a variety of activities while practicing appropriate body alignment.

D. Regularly participate in activities for the purpose of improving fitness and physical skills.

III. **The student will participate in a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects at a developmentally appropriate level.**

The student will:

A. Demonstrate intermediate jump rope skills.

B. Jump and land, throw, catch and kick using proper techniques.

C. Hand dribble and foot dribble a ball while participating in an organized group activity.

D. Strike a softly thrown ball with a bat or paddle demonstrating an appropriate grip, side to the target and swing plane.

E. Strike a softly thrown, lightweight ball back to a partner using the head, trunk and/or limbs in various combinations (e.g., the pass or volley as in volleyball, the thigh in soccer).

F. Escape, catch or dodge an individual or object while moving.

G. Be introduced to survival skills concerned with being in, on and around the water.

H. Be introduced to equipment used in a variety of activities.

I. Be introduced to lifetime outdoor activities available in the community.

IV. **The student will practice sportsmanship, rules and safety factors of organized activities.**

The student will:

A. Practice and distinguish between appropriate and inappropriate behaviors for participating with others in physical activity.

B. Be considerate of others in physical activity settings.

C. Identify equipment used and safety precautions necessary for participation in a variety of activities.

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PHYSICAL EDUCATION

Grade 5

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. The student will perform various advanced intermediate locomotor and nonlocomotor skills in a combination of rhythmic activities.

The student will:

A. Participate in advanced intermediate rhythmic activities involving physical movement with or without music.

B. Balance with control on a variety of moving objects (e.g., balance boards, scooters, skates, bicycles).

C. Transfer weight from feet to hands at fast and slow speeds using large extensions (e.g., handstand, cartwheel, round off).

D. Perform basic tumbling skills using proper form and technique.

E. Identify and participate in games and rhythms of various cultures.

II. The student will identify and demonstrate the five components of fitness, i.e., muscular strength, muscular endurance, flexibility, body composition and aerobic endurance activities.

The student will:

A. Describe and participate in physical activity associated with healthy lifetime skills.

B. Regularly participate in activities for the purpose of improving fitness and physical skills.

C. Participate in aerobic activity for a specified time.

D. Support, lift and control body weight in a variety of activities while practicing appropriate body alignment.

E. Monitor heart rate before and after activities.

III. The student will participate in a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects at a developmentally appropriate level.

The student will:

A. Demonstrate advanced intermediate jump rope skills.

B. Hand dribble and foot dribble a ball while participating in an organized group activity.

C. Jump and land, throw, catch and kick, practicing coordinated patterns using proper techniques.

D. Strike a softly thrown ball with a bat or paddle demonstrating an appropriate grip, side to the target and swing plane while attempting to land a ball in a large designated area.

E. Strike a softly thrown, lightweight ball back to a partner using head, trunk or limbs in combination patterns (e.g., the pass or volley as in volleyball, the thigh in soccer).

F. Escape, catch or dodge an individual or object while moving at various speeds.

G. Identify survival skills concerned with being in, on and around the water.

H. Select and categorize equipment used for participation in a variety of activities.

I. Be introduced to lifetime outdoor activities available in the state.

IV. The student will practice sportsmanship, rules and safety factors of sports and games.

The student will:

A. Practice and distinguish between appropriate and inappropriate behaviors for participating with others in physical activity.

B. Be considerate of others in physical activity.

C. Identify equipment used and safety precautions necessary for participation in a variety of activities.

PHYSICAL EDUCATION

Grades 6 - 7

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. **The student will perform various advanced intermediate locomotor and nonlocomotor skills in a combination of rhythmic activities.**

The student will:

A. Perform a variety of multicultural and creative movements.

B. Execute smooth sequences that combine traveling, rolling, jumping, balancing and weight transfer with intentional change in direction, speed and flow.

II. **The student will recognize the importance of and demonstrate health-related fitness components, i.e., cardiovascular endurance, flexibility, muscular strength and endurance and body composition.**

The student will:

A. Recognize the components of a fitness program.

B. Identify proper warm-up, conditioning and cool-down techniques and the reasons for them.

C. Identify benefits of participation in different forms of physical activities.

D. Monitor heart rate before, during and after activity.

III. **The student will demonstrate a wide variety of activities that involve locomotion, nonlocomotion and the handling of various objects at a developmentally appropriate level.**

The student will:

A. Design and refine a routine combining various jump rope movements to music.

B. Consistently throw, catch, hand and foot dribble a ball while guarded by opponents.

C. Throw a variety of objects demonstrating both accuracy and distance (e.g., saucer-shaped disks, deck tennis rings, footballs).

D. Consistently strike a ball so that it travels in an intended direction and height using a long handled implement.

E. Use basic skills in modified net games (e.g., tennis, volleyball, badminton) and invasive games (teams moving into the opponents territory, e.g., soccer, basketball).

F. Consistently strike a bail to a wall or a partner with a paddle/racket using both forehand and backhand strokes.

G. Volley an object in a small group, without catching it (e.g., balloon, ball, foot bag).

IV. **The student will apply appropriate safety rules and precautions inherent to physical education.**

The student will:

A. Design and play small group games that involve cooperating with others.

B. Apply rules and etiquette in physical activities.

C. Participate with and show respect for persons of like and different skill levels.

D. Respect physical and mental limitations of self and others.

E. Accept and respect the decisions made by game officials, whether they are fellow students, teachers or volunteers.

PHYSICAL EDUCATION

Grades 8 - 9

It is important to realize many activities and skills can fall under each of the topic headings. A small number have been selected to demonstrate the appropriateness of what is expected at the various age levels. Please note the progression of the skills listed as the child's physical development progresses. Some areas have been repeated because of the need for emphasizing those skills.

I. **The student will design and perform rhythmic activities involving physical movement with or without music, encompassing a variety of multicultural forms of movement and/or manipulative objects (e.g., tinikling, jump rope, creative movement).**

The student will:

A. Design smooth sequences demonstrating traveling, jumping, rolling, balancing and weight transfer with intentional changes in direction, speed and flow.

B. Design sequences demonstrating rhythmic movement encorporating the manipulation of objects.

II. **The student will continue to recognize the importance of and demonstrate health-related fitness components, i.e., muscular strength and endurance, flexibility, cardiorespiratory endurance and body composition.**

The student will:

A. Describe principles of training and conditioning for specific activities.

B. Correctly demonstrate various weight-training techniques.

C. Analyze and categorize activities and exercises according to potential fitness benefits.

D. Evaluate the roles of exercise and other factors in weight control.

E. Design and participate in an individualized fitness program.

F. Evaluate the time and effort needed to be given to practice if skill improvement and fitness benefits are to be realized.

G. Identify long-term physiological, psychological and cultural benefits that may result from regular participation in physical activity.

III. **The student will continue to demonstrate locomotor, nonlocomotor and handling skills at the appropriate level.**

The student will:

A. Design and play small group games that involve cooperating with others using basic offensive and defensive strategies.

B. Combine skills competently to participate in modified versions of team and individual sports.

C. Use and analyze offensive and defensive strategies in physical education games and activities.

D. Explore introductory outdoor activities (e.g., orienteering, hiking, cycling).

IV. **The student will apply rules and etiquette in physical activities.**

The student will:

A. Demonstrate appropriate conduct as an individual and as part of a group.

B. Apply appropriate safety rules and precautions inherent to physical education

C. Participate with and show respect for persons of like and different skill levels.

D. Respect physical and mental limitations of self and others.

E. Accept and respect the decisions made by game officials, whether they are fellow students, teachers or volunteers.

PHYSICAL EDUCATION

Grades 10 - 12

I. **The student will self-test personal fitness status related to cardiovascular endurance, muscular strength and endurance, flexibility and body composition.**

The student will:

A. Use results of fitness assessments to guide changes in his/her personal program of physical activity.

B. Contrast health-related components with skill-related components of physical fitness.

C. Plan a lifetime physical fitness program.

D. Evaluate risks and safety factors that may effect physical activity preferences throughout his/her adult life.

E. Use biomechanical concepts and principles (application of mechanical laws to the locomotor system of the human body) to analyze and improve performance of self and others.

F. Identify the effects (e.g., physical fitness level, climatic conditions) of age, gender, race, ethnicity, socioeconomic standing and culture upon physical activity preferences and participation.

G. Critically evaluate claims and advertisements made about commercial products and programs in the fitness and activities area.

II. **The student will know the implication of and the benefits from involvement in physical activities.**

The student will:

A. Discuss the historical roles of games, sports and dance in the cultural life of a population.

B. Participate in a variety of games, sports, and rhythmic activities representing various multicultural backgrounds.

C. Demonstrate developmentally appropriate skills in one physical activity from three of the following categories: aquatics, combatives, rhythms, individual and team activities/sports and outdoor pursuits.

D. Compare and contrast offensive and defensive patterns in sports.

E. Categorize activities that can be pursued in the local community according to their benefits and participation requirements.

F. Identify the importance of respecting the natural environment while participating in physical activity.

G. Analyze time, cost and accessibility factors related to regular participation in physical activities.

Technology Education/ Hands-On Career Exploration

State Department of Vocational
and
Technical Education
(405) 743-5478

TECHNOLOGY EDUCATION

OVERVIEW

Technology Education in Oklahoma is an instructional program that provides young men and women (Grades 6-10) with daily, hands-on/exploratory experiences and insights into technology and career opportunities so that they can make meaningful occupational and educational choices. It is a program which will enhance the educational experiences of all students whether they are the valedictorian/honor type-student, the middle range/average student, or the student who has found little success in school, namely the at-risk student.

Technology Education capitalizes on the individual's potential for reasoning and problem solving, for imagining and creating, and for constructing and expressing through the use of tools and materials related to technology. It develops content and experiences to contribute to the growth and development of students commensurate with their potential. Thus, Technology Education is a basic and fundamental study for all persons in regard to career explorations and educational opportunities.

Opportunities to develop and apply leadership, social, civic and technologically related skills are provided through the Technology Student Association (TSA).

All Technology Education courses are taught with each of the four Technology systems (communications, construction, manufacturing and transportation, energy and power) being designed to provide a means through which other courses such as math, science, language arts and social studies can be applied in a practical manner within a technology-based situation. Teaching across the curriculum is vital to the success of a Technology Education program.

TECHNOLOGY EDUCATION

Grades 6 - 10

The student will:

I. Know and appreciate the importance of technology and technology literacy.

  - Emphasis is placed on an action-based curriculum which examines the evolution, application and significance of modern technology and its impacts on our lives entering the 21st Century.

II. Explore career opportunities so they can make meaningful occupational choices.

  - Emphasis is placed on creating an awareness of numerous career opportunities through the use of various means (e.g., career search software, field trips, guest speakers and hands-on activities dealing with lasers, medical technology, fiberoptics, robotics, biotechnology, computer-aided drafting electronics, engineering, keyboarding, microwave systems and other technology systems.

III. Explore future educational opportunities so they can make meaningful educational choices.

  - Emphasis is placed on creating an awareness of various educational opportunities required for future careers (e.g., additional vocational classes at the secondary level in the comprehensive high school and area vo-tech schools, junior or four-year universities, post-secondary technical institutes, five- and six-year universities, military training, private sector training, others).

IV. Apply problem-solving and thinking techniques.

  - Emphasis is placed on the design and implementation of the optimal solution to a given technological problem through laboratory-based activities and using a formalized problem solving method.

V. Apply math, science, reading and other school subjects in a practical situation.

  - Emphasis is placed on each student developing a "hands-on" awareness of the practical application of other school subject matter (e.g., math, science, reading, language arts, social studies, etc.).

PRIORITY ACADEMIC STUDENT SKILLS

VI. Develop keyboarding and computer literacy skills.

- Emphasis is placed on developing keyboarding and computer literacy skills through the use of daily "hands-on" activities (e.g., robotics, computer animation, electronic publishing, computer assisted design and career search).

VII. Develop basic skills in the safe and proper use of tools, machines, materials, processes and technical concepts.

- Emphasis is placed on the specific instruction and "hands-on" activities using equipment, tools and instruments necessary to investigate the properties of various synthetic, raw and biological materials.

VII. Think logically and sequentially.

- Emphasis is placed on providing opportunities for students to learn from their mistakes; to solve problems through analysis, modeling, trial and error, elimination and other techniques; and to propose creative, innovative, nontraditional solutions to technical problems.

IX. Develop leadership, creative abilities, positive self-concepts and individual potential in a technological society.

- Emphasis is placed on leadership development activities that assist students to become good citizens with positive qualities and attitudes, and to develop skills in communication, decision making/problem solving, human relations, management, and motivational techniques (e.g., Technology Student Association [TSA] activities).

X. Develop an understanding and the ability to adapt to those technological forces that influence life in the 21st Century.

- Emphasis is placed on developing a student's understanding of the impact technology has on our culture, society, economy, environment and politics.

XI. Develop an understanding of economic development.

- Emphasis is placed on providing all students with an in-depth foundation of how companies are formed and the means through which they can make successful contributions to our economy at the local, state, national and international levels. The students actually set up a company, establish a board of directors and stock holders, produce a product, market, sell and disseminate the product, and dissolve the company.

XII. Communicate by making clear and relevant points through the development of mental process skills.

- Emphasis is placed on large and small group activities which further the development of mental process skills such as creative thinking, decision making, critical thinking and problem solving.

XIII. Apply design, imagination and creative abilities.

- Emphasis is placed on the individual's potential for reasoning and problem solving for imagining and creating for constructing and expressing with tools.

XIV. Explore the organization and management systems of business and industry.

- Emphasis is placed on understanding organization and management systems of business and industry through role playing and problem-solving activities.

Information Skills

Grades 1 - 12

Information Skills

OVERVIEW

Information Skills are to be taught as an integral part of curriculum content in math, science, social studies, language arts, reading, etc. They are best taught as a result of the cooperative planning and teaching of instructional units or activities. The classroom teacher and media specialist should provide opportunities for students to use information skills in completion of class assignments.

INFORMATION SKILLS

Grades 1 - 5

I. Locate Information

The student will identify and locate a variety of information sources.

The student will:

A. Recognize different information sources.

B. Understand the concept of classification systems for the organization of information.

C. Identify key words and phrases.

II. Select, Evaluate and Interpret Information

The student will sort and use information in various formats.

The student will:

A. Select resources for enjoyment and/or information.

B. Distinguish between fiction and nonfiction.

C. Recognize significant components of various information sources.

D. Formulate questions.

E. Evaluate resources for information needs.

F. Extract main ideas from selected information sources.

III. Record and Organize Information

The student will record and organize information to meet a stated need.

The student will:

A. Express ideas clearly.

B. Record impressions and information from various sources.

C. Paraphrase information.

D. Organize sequentially.

E. Record concise notes from various sources.

IV. **Present Information**

The student will communicate information effectively in various formats.

The student will:

A. Recognize different forms of presentation.

B. Use the most appropriate format for presenting information.

V. **Literature**

The student will recognize literature as an essential base of cultural and practical knowledge.

The student will:

A. Recognize the relationship between literature and curriculum areas.

B. Discover various literature genres through reading and listening.

C. Select library materials independently for recreational enjoyment.

D. Participate in programs designed to promote reading quality literature.

E. Compare cultural heritage through literature.

G. Interpret a story from illustrations.

H. Identify award-winning literature.

INFORMATION SKILLS
Grades 6-8

I. **Locate Information**

The student will identify and locate a variety of information sources.

The student will:

A. Identify parts of an index or catalog system.

B. Locate information sources using an index or catalog system.

II. **Select, Evaluate and Interpret Information**

The student will sort and use information in various formats.

The student will:

A. Scan and skim sources for relevant information.

B. Retrieve the most useful information for a given need.

C. Compare information noting different points of view.

D. Evaluate information for relevancy, currency, accuracy and interest.

E. Summarize the selected information and limit or expand it to meet the given need.

III. **Record and Organize Information**

The student will record and organize information to meet the given need.

The student will:

A. Synthesize and organize information.

B. Create an outline.

C. Use an accepted system for organizing notes.

IV. **Present Information**

The student will communicate information effectively in various formats.

The student will present information, choosing from a variety of formats.

V. **Literature**

The student will recognize literature as an essential base of cultural and practical knowledge.

The student will:

A. Select and use quality literature to enrich and supplement specific areas of the curriculum.

B. Discover contemporary literature through reading, listening and viewing.

C. Recognize periodicals and nonprint formats as sources for information and recreational reading.

D. Compare and contrast literary aspects of award-winning literature.

E. Create an artistic interpretation of a literary selection.

INFORMATION SKILLS

Grades 9 - 12

I. Locate Information

The student will identify and locate a variety of information sources.

The student will:

A. Design a range of possible areas for investigation.

B. Develop search strategies.

C. Locate all types of pertinent information.

II. Select, Evaluate and Interpret Information

The student will sort and use information in various formats.

The student will:

A. Distinguish fact, opinion, inference and implication.

B. Judge information for stereotyping, bias and prejudice.

C. Recognize techniques of persuasion and propaganda in information sources.

III. Record and Organize Information

The student will record and organize information to meet the stated need.

The student will:

A. Organize information for unity, coherence and emphasis.

B. Evaluate the validity of his/her main ideas.

C. Credit sources accurately.

IV. Present Information

The student will communicate information effectively in various formats.

The student will:

A. Choose a reporting format appropriate to the conclusion and audience.

B. Evaluate information presented according to a predetermined need.

V. Literature

The student will recognize literature as an essential base of cultural and practical knowledge.

The student will:

A. Use quality literature in specific areas of the curriculum.

B. Recommend recreational reading materials.

C. Identify and compare major literary awards.

D. Differentiate unique qualities of various formats of literature.

E. Create a form of literature and present it in a visual manner.

Student Assessment

STUDENT ASSESSMENT

This section of P.A.S.S. accomplishes the following:

- Discusses possible measurement methods which can be used with Priority Academic Student Skills
- Provides background information regarding testing mandates for 1993 through 1999
- Defines the two major kinds of mandated tests for Oklahoma: Norm-Referenced and Criterion-Referenced
- Describes the mandates regarding implementation of the Literacy Passport Tests
- Identifies the academic skills to be measured by Oklahoma's Criterion-Referenced Tests for Grades 5, 8 and 11

Introduction

Desired student competencies contained in the P.A.S.S. will be measured in a statewide criterion-referenced testing program beginning in the 1994-95 school year. The state-mandated tests used to measure P.A.S.S. competencies will be group-administered *pencil-and-paper* tests for students in Grades 5, 8 and 11.

It is important to remember that the Oklahoma Criterion-Referenced Tests used statewide to measure attainment of the P.A.S.S. objectives is just one type of assessment. While the group-administered *pencil-and-paper test* is appropriate for large-scale assessment of many skills and areas of knowledge described in P.A.S.S., it is not appropriate for measuring all of the competencies. Many of the skills described in P.A.S.S.—such as oral reading—will require teaching and assessment methods that focus on a demonstration of skill application.

There is a variety of *performance* measurement tools available to the teacher who wants to assess student progress on all of the P.A.S.S. competencies. For example, conducting a science experiment in a laboratory situation may be the best—if not the only—way to measure certain specific skills and knowledge in the scientific process. Keeping a folder of the student's writing samples all year may be the best way to measure progress in writing complete sentences, paragraphs and essays. Further, administering an Informal Reading Inventory to students in September, January, and late April may be the only way to determine (1) their instructional reading levels and (2) their true reading progress throughout the school year. Use of such performance measures helps the teachers assess students' strengths and needs.

The mandated norm-referenced and criterion-referenced tests to be administered in the next few years will provide valuable information on student progress. However, these are only two of many tools with which to measure student progress. Teachers are encouraged to learn about and apply many other assessment methods to measure progress of academic skills and knowledge.

Currently Mandated Tests: Norm-Referenced and Criterion-Referenced

The Oklahoma School Testing Program (OSTP) was implemented in 1985-86 as a result of legislative mandate. Both types of assessment used in the OSTP—achievement and writing—have, by law, been *norm-referenced tests*. The state's latest mandate (Senate Bill 958, 1992) launches Oklahoma educators into development and use of the state's first *criterion-referenced tests*. The following information is provided to explain and clarify current mandates which employ these two major types of tests:

- **Norm-Referenced Tests**

  Definition: Norm-referenced tests are designed to indicate relative rankings of student performance in the academic skills and knowledge tested. Design of such tests begins with learner objectives which often "cluster" the skills and/or knowledge to be measured. Commercially produced norm-referenced test objectives, developed by test publishers, are based on learner objectives commonly used by local school districts throughout the nation. Scores on norm-referenced tests are interpreted in a way that compares an individual student's performance with that of the class, school site or district, or a national norm group.

Norm-Referenced Test Administration Schedule as Stated in Oklahoma Law: 70 O.S. §1210.505

Achievement Tests: Grade Levels to be Tested:	3rd, 5th, 7th, 9th and 11th through 1994; beginning in 1995, norm-referenced achievement tests will be administered at the 3rd and 7th grades only.
Writing Assessment: Grade Levels to be Tested:	7th and 10th through 1994; norm-referenced writing assessment will be deleted beginning in 1995. Criterion-referenced writing assessment will begin at 8th grade in 1995; 5th and 11th grades will be added in 1996.

Subjects to be Tested:	Mathematics, English language arts: reading, writing, and language; science and social studies.
Test Administration Frequency and Time of Year:	Annually in the spring semester.
Purpose:	• To measure specific skills within the state-mandated curriculum. • To focus on student progress and to diagnose students' strengths and needs. • To prescribe skill reinforcement and/or remediation. • To assist school district personnel in developing and implementing an improvement program based on test results.
Modifications:	Modifications will be made for handicapping conditions (i.e., large-print tests, Braille, etc.)
Inservice Mandate:	Inservice shall be provided for those who administer the tests.
Reporting Mandate:	Results are reported to the following: • Parents, teachers and school administrators • State Board of Education • Governor, Speaker of the House of Representatives and the President Pro Tempore of the Senate

- **Criterion-Referenced Tests**

Definition: The criterion-referenced test (CRT) is designed to measure specific skills and knowledge. Except for commercially-produced CRTs, the objectives measured in this form of test are most often written by the test user. Scores on CRTs have meaning in terms of *what the student knows or can do.* Such scores are interpreted in a way that compares an individual student's performance with a predetermined proficiency level (e.g., a *per objective* percent of test items answered correctly).

Criterion-Referenced Test Development and Administration Schedule as Stated in Oklahoma Law: 70 O.S. §1210.508 (SB 958 & HB 1383)

Subjects	Field-Test	Implementation
Mathematics and Science	1993-94	1994-95
Reading and Writing	1994-95*	1995-96*
U.S. History & Government	1995-96	1996-97
Geography	1996-97	1997-98
Culture and the Arts	1997-98	1998-99

Grade Levels of Skills to be Tested:	5th, 8th, and 12th
Grade Levels at which Field-Tested:	5th, 8th, and 11th
Grade Levels at which Implemented:	5th, 8th, and 11th
Grade Levels Designated for Retakes:	6th & 7th; 9th & 10th; and 12th

*Note change in this schedule for *8th grade only* due to implementation of the Literacy Passport Tests (see pages 136 and 137).

Kinds of Test Items:	Multiple-choice in mathematics, science, reading, U.S. history and government, geography, and culture and the arts. Writing skills are measured by *direct writing assessment* (i.e., students respond in writing in one of four designated writing modes: narrative, descriptive, expository or persuasive).
Test Administration Frequency and Time of Year:	Annually in the spring semester.
Purpose:	To measure the state-mandated curriculum in the subjects and/or skill areas of mathematics, science, reading, writing, U.S. history and government, geography, and culture and the arts.
Ramifications of Failing and Remediation Mandate:	All students failing the criterion-referenced grade level tests shall be provided opportunities for remediation and shall retake the tests at Grades 6 & 7, 9 & 10 and 12. Pass/fail criteria (or *cut-scores)* will be established by determining, from field-test data on each test administered, reasonable performance expectation levels for students.
Modifications:	Test format and/or administration modifications will be made for students with special needs.
Reporting Mandate:	Results will be reported in the Oklahoma Educational Indicators Report in terms of the following: the number of students passing and failing on initial test administrations and number passing on retakes.

- **Literacy Passport Tests**

Governor David Walters' Executive Order 92-8 (signed July 29, 1992) designated four of the mandated criterion-referenced tests as *Literacy Passport Tests*. These include tests in 8th grade mathematics, science, reading and writing. Individual Literacy Passport tests failed must be retaken by students in Grades 9-12. A student who does not pass all four Literacy Passport Tests before graduation will not receive the regular high school diploma.

Literacy Passport Tests
as Stated in Executive Order 92-8, Signed July 29, 1992

Subjects:	Mathematics, Science, Reading and Writing
Type of Tests:	Criterion-Referenced (to measure *competencies expected of Oklahoma students*)
Grade Level at which Implemented:	8th grade
Relevant Dates:	Field-Test—1993-94; Implementation—1994-95
Ramifications:	Those passing all four tests are awarded a Literacy Passport by the local Board of Education beginning in 1995. Tests failed are retaken at the grade levels indicated below.
Grade Levels Designated for Test Retakes:	9th, 10th, 11th and 12th

Relationship to Criterion-Referenced Test Program Mandated by SB 958:	The criterion-referenced tests developed to meet the mandate of Senate Bill 958 of 1992 will be used for the eighth (8th) grade Literacy Passport Tests in reading, writing, mathematics and science. Field testing will begin 1993-94; implementation will begin in 1994-95.
Kinds of Test Items:	Multiple-choice in mathematics, science and reading. Writing will be a *direct writing assessment*.
Test Administration Frequency and Time of Year:	Annually in the spring semester.
Ramification of Failing:	Promotion/retention in Grades 9-12 is not dependent on passing the four criterion-referenced tests administered in Grade 8. However, students must pass all four Literacy Passport Tests by the end of Grade 12 to receive a regular high school diploma.
Follow-up with Students:	Opportunities for remediation in the subject/test areas failed shall be provided for students.
Modifications:	Test format and/or procedural accommodations will be made for handicapping conditions.

Resulting Test Schedule: The combined mandates from SB 958 (1992), Executive Order 92-8 (1992) and HB 1383 (1993), result in the following test schedule:

Criterion-Referenced Test Development and Administration Schedule Based on the Combination of Oklahoma Law and Executive Order 92-8

Subjects	Field-Test	Implementation
Mathematics and Science (Grades 5, 8, & 11)	1993-94	1994-95
Reading and Writing (Grade 8)	1993-94	1994-95
Reading and Writing (Grades 5, 8 & 11)	1994-95	1995-96
U.S. History & Government (Grades 5, 8, & 11)	1995-96	1996-97
Geography (Grades 5, 8, & 11)	1996-97	1997-98
Culture and the Arts (Grades 5, 8, & 11)	1997-98	1998-99

Grade Levels of Skills to be Tested:	5th, 8th, and 12th
Grade Levels at which Field-Tested:	5th, 8th, and 11th
Grade Levels for implementation of CRTs other than Literacy Passport Tests:	5th, 8th, and 11th
Grade Levels for implementation of the Literacy Passport Tests:	8th grade only
Grade Levels Designated for Retakes of CRTs other than Literacy Passport Tests:	6th & 7th; 9th & 10th; and 12th
Grade Levels Designated for retakes of Literacy Passport Tests:	9th through 12th

Priority Academic Student Skills to be Measured by Oklahoma's Criterion-Referenced Tests for Grades 5, 8, 11

Language Arts: Reading

Grade 5

Exhibit positive reading habits; view reading as important.

- Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, graphs and directions.
- Demonstrate appropriate use of informational sources including, but not limited to, tradebooks, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

Read with fluency in order to understand what is read.

- Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).
- Determine the purpose for reading a specific passage.

Use prior knowledge to become actively engaged with the reading material and use a range of thinking skills (literal, inferential and evaluative).

- Identify narrative and expository text.
- Identify major elements of story structure (setting, characters, goal, conflict, major events of the plot and resolution).
- Recognize relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.
- Determine a statement of central purpose, theme or the key concept(s) of a story, poem or expository passage.
- Identify details that support or describe a key concept.
- Determine the author's purpose and point of view even when not explicitly stated.
- Interpret meaning from the author's use of figurative language.
- Make inferences and draw conclusions from the evidence presented in the reading material.

Know the goal of reading is constructing meaning and use effective strategies to aid comprehension.

- Use a variety of comprehension and study strategies such as outlining and summarizing.

Language Arts: Reading
Grade 8

Exhibit positive reading habits; view reading as important.

- Read a variety of materials for different purposes such as for entertainment and information.
- Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, maps, graphs and directions.
- Demonstrate appropriate use of informational sources including, but not limited to, tradebooks, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

Read with fluency, in order to understand what is read.

- Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).
- Determine the purpose for reading a specific passage.

Use prior knowledge to become actively engaged with the reading material and use a wide range of thinking skills (literal, inferential and evaluative).

- Identify narrative and expository text.
- Use story structure to organize, recall and make inferences about the story (setting, characters, goal, plot, conflict and resolution).
- Determine a statement of the key concept(s), actual or implied, or theme.
- Identify details that support or describe a key concept.
- Make inferences and draw conclusions from the evidence presented in the reading material.
- Recognize and interpret relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.
- Determine the author's purpose and point of view even when not explicitly stated.
- Interpret meaning from the author's use of figurative language.
- Use background knowledge and questioning to evaluate controversial issues and propaganda.

Know the goal of reading is constructing meaning and use effective strategies to aid comprehension.

- Use appropriate strategies for studying and learning from the text such as outlining.
- Summarize text by identifying and organizing relevant material.
- Relate dictionary definitions to context of the reading in order to aid understanding.
- Determine strategies appropriate to text and context.

PRIORITY ACADEMIC STUDENT SKILLS

Language Arts: Reading

Grade 11

Exhibit positive reading habits; view reading as important.

- Read for a variety of purposes such as for entertainment and information.
- Locate and use information to increase knowledge of content areas.
- Demonstrate use of functional print including, but not limited to, schedules, letters, catalogs, directories, charts, maps, graphs and directions.
- Demonstrate appropriate use of informational sources including, but not limited to, tradebooks, almanacs, atlases, encyclopedias, dictionaries, thesauruses, magazines and newspapers.

Read with fluency in order to understand what is read.

- Identify technical and specialized terms and determine meanings of multiple meaning words using a variety of strategies (prediction, context, structural analysis and phonics).
- Determine the purpose for reading a specific passage.

Use prior knowledge to become actively engaged with the reading material and use a range of thinking skills (literal, inferential and evaluative).

- Identify narrative and expository text.
- Recall and organize information, make inferences and draw conclusions by using story structure (setting, characters, goal, plot, conflict and resolution).
- Determine a statement of the key concept(s) or theme and identify supporting details of a reading passage.
- Identify details that support or describe a key concept.
- Interpret relationships in text such as comparison/contrast, cause/effect, problem/solution and sequential order.
- Analyze the author's purpose and point of view in order to evaluate source credibility and reliability.
- Interpret meaning from the author's use of figurative language and literary devices.
- Identify the author's writing style.
- Evaluate issues and propaganda within the reading material.

Know the goal of reading is constructing meaning and use effective strategies to aid understanding.

- Use appropriate strategies for studying and learning from the text such as outlining.
- Summarize text by identifying and organizing relevant material.
- Relate dictionary definitions to context of the reading in order to aid understanding.
- Determine strategies appropriate to text and context.

Writing

Grade 5

Use thinking skills to acquire and process written and auditory information for a variety of purposes.

Effectively express ideas in written modes to satisfy a variety of purposes and audiences.

- Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).
- Demonstrate appropriate conventions in written composition (e.g., complete thoughts, complete sentences, usage, mechanics, spelling).
- Communicate through written forms on paper and/or on a computer screen (e.g., to inform, to persuade, to entertain, to express ideas; using sentences, paragraphs, compositions, poetry, stories, letters, note-taking skills, journals, reports, presentations or discussions).

Note: Writing prompts will not elicit from students information regarded as being in the area of *values* (i.e., will refrain from eliciting personal or private information).

Writing

Grade 8

Use thinking skills to acquire and process written and auditory information for a variety of purposes.

Effectively express ideas in oral and written modes to satisfy a variety of audiences.

- Communicate through a variety of written forms, on paper and on a computer screen (e.g., paragraphs, compositions, stories, friendly and business letters).
- Express ideas and opinions orally and in writing (e.g., writing or performing plays, dialogues, reports).
- Utilize the writing process to develop and refine composition skills (e.g., prewriting, drafting, revising, editing or proofreading, publishing or sharing).
- Demonstrate use of appropriate conventions in written composition (e.g., edit for usage, mechanics and spelling).
- Compose a variety of types of paragraphs, each containing a topic sentence, supporting sentences, and a concluding sentence (e.g., narrative, descriptive, expository, persuasive).
- Communicate for a variety of audiences and purposes (to inform, to entertain, to persuade and to express ideas).

Note: Writing prompts will not elicit from students information regarded as being in the area of *values* (i.e., will refrain from eliciting personal or private information).

Writing

Grade 11

Use thinking skills to acquire and process written and auditory information for a variety of purposes.

Effectively express ideas in written modes to satisfy a variety of purposes and audiences.

- Produce a multiparagraph assignment with a thesis, supporting paragraphs, and a conclusion, either on paper or on a computer screen (to include narrative, descriptive, expository, persuasive, life experiences).
- Utilize the writing process (prewriting, drafting, revising, editing and publishing) to develop and refine composition skills (to include coherence, unity, logical organization, development of topic and thesis, continuity of purpose).

Note: Writing prompts will not elicit from students information regarded as being in the area of *values* (i.e., will refrain from eliciting personal or private information).

MATHEMATICS

Grade 5

Mathematics as Problem-Solving

- Develop and apply strategies to solve a variety of routine and nonroutine problems.
- Verify and interpret results with respect to the original problem.

Mathematics as Communication

- Relate manipulatives, pictures and diagrams to mathematical ideas.
- Relate everyday language to mathematical language and symbols.

Mathematics as Reasoning

- Draw conclusions based on mathematical ideas and concepts.
- Use patterns and relationships to analyze mathematical situations.

Mathematics as Connections

- Develop the link of conceptual ideas to abstract procedures.
- Relate various concrete and pictorial models of concepts and procedures to one another.
- Recognize relationships among different topics in mathematics.
- Use mathematics in other curriculum areas.
- Use mathematics in daily life.

Number Sense and Number Theory

- Compare fractions to decimals and decimals to fractions.
- Order decimals and fractions.
- Demonstrate the relationship of the four basic operations.
- Demonstrate the use of common percents (e.g., 25%, 50%, 75%).
- Establish number sense (e.g., comparisions, size and effect of operations on numbers).

Computation and Estimation

- Know when an estimate is appropriate and use estimates in practical, everyday situations.
- Compute whole numbers and decimal operations and add and subtract fractions.

Patterns and Functions

- Describe and extend a wide variety of patterns using tables, graphs and rules.

Algebraic Concepts

- Represent data collected during problem-solving situations using tables, graphs, rules and symbols.

Statistics and Probability

- Organize and interpret data.

Geometry

- Identify, describe, compare and classify geometric figures (e.g., polygons, circles, three-dimensional shapes) and their parts using appropriate geometric terminology.
- Identify, analyze and compare relationships among angles.

Measurement

- Measure an attribute (e.g., time, temperature, length, weight, capacity) using the appropriate tool.
- Convert given measures within the same measurement system (e.g., inches to feet).
- Apply measurement concepts and rounding techniques to application problems involving length, weight and capacity.

PRIORITY ACADEMIC STUDENT SKILLS

MATHEMATICS

Grade 8

Mathematics as Problem-Solving

- Evaluate results to determine their reasonableness.
- Apply a variety of strategies (e.g., trial and error, diagrams, making the problem simpler) to solve problems, with emphasis on multistep and nonroutine problems.

Mathematics as Communication

- Translate a mathematical idea from one form to another (e.g., oral, written, pictorial, concrete, graphical, algebraic).
- Use reading and visual skills to interpret and evaluate mathematical ideas.

Mathematics as Reasoning

- Identify and extend patterns and use experiences and observations to make suppositions.
- Use counterexamples to disprove suppositions.

Mathematics as Connections

- Apply mathematical strategies to solve problems that arise from other disciplines.
- Demonstrate the ability to relate one area of mathematics to another.

Number Sense and Number Theory

- Compare and order positive and negative rational and irrational numbers.
- Identify problems using ratio and proportion.

Computation and Estimation

- Estimate and then solve applications.
- Use ratio and proportions to solve a variety of problems.

Patterns and Functions

- Describe, extend and analyze a wide variety of patterns using tables, graphs and rules.

Algebraic Concepts

- Solve simple linear equations.

Statistics

- Distinguish between the basic use and misuse of statistical representations and inferences.
- Select and apply appropriate format in the presentation of collected data.
- Determine and calculate the most appropriate statistic among the mean, median, mode and range.

Probability

- Predict possible outcomes through simple experiments or simulations.

Geometry

- Incorporate congruence, similarity and transformation into problem-solving skills.

Measurement

- Integrate measurement into other areas of mathematics.
- Use the concept of rate (e.g., distance in relation to time, pay in relation to hours worked).

MATHEMATICS

Grade 11

Mathematics as Problem-Solving

- Apply problem-solving strategies to other disciplines and real-world situations.
- Identify the problem from a described situation, determine the necessary data and apply the appropriate problem-solving strategy.

Mathematics as Communication

- Analyze mathematical definitions.

Mathematics as Reasoning

- Draw conclusions and identify counterexamples in mathematical context.

Mathematics as Connections

- Apply mathematical problem-solving skills in other curricular areas.
- Use mathematics in daily life.
- Relate one area of mathematics to another.

Algebra

- Translate mathematical symbols to words and words to mathematical symbols.
- Simplify and evaluate expressions, solve equations and solve inequalities.
- Choose the appropriate expression, equation or inequality that represents a given situation.
- Match appropriate equation or inequality to a graph or table.
- Recognize what needs to be solved from a described situation, determine which data is necessary for the solution of a described situation and solve a problem from a described situation.

Geometry

- Use properties of two- and three-dimensional figures to determine unknown values.
- Determine unknown values using the relationship of congruency and similarity.
- Use the area or perimeter formulas of squares, rectangles and triangles to find the unknown value.
- Use the area or circumference of a circle to solve for the unknown value.

Functions

- Evaluate a function using tables, verbal rules, equations or graphs.
- Interpret information among tabular, symbolic and graphical representations of functions.
- Describe real-world phenomena with a variety of functions.

Statistics

- Organize and analyze data.

Probability

- Solve problems involving chance (one event for each problem).

Trigonometry

- Find the missing side of a right triangle using the Pythagorean Theorem.

SCIENCE
Grade 5

Observe and Measure

- Identify the similar or different characteristics in a given set of objects, organisms or events.
- Select descriptive (qualitative) or numerical (quantitative) observations in a given set of objects, organisms or events.
- Identify qualitative and quantitative changes when given conditions before, during or after an event.
- Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units, grams, meters, liters and degrees Celsius).

Classify

- Identify the properties by which a set of objects, organisms or events could be ordered.
- Select a sequential order for each property within a set of objects, organisms or events.
- Use observable properties to classify a set of objects, organisms or events.

Experiment

- Arrange the steps of a scientific problem in the proper sequential order.

Interpret

- Identify and report data in appropriate method when given an experimental procedure or information.
- Interpret line, bar and circle graphs.

Communicate

- Describe the properties of an object or event in sufficient detail so another person can identify it.
- Complete an appropriate graph or chart from collected data.

Practice Safety

- Recognize potential hazards within a given activity.
- Practice safety procedures in all science activities.

SCIENCE
Grade 8

Observe and Measure

- Identify the similar or different characteristics in a given set of objects, organisms or events.
- Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.
- Identify qualitative and quantitative changes given conditions before, during and after an event.
- Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units).

Classify

- Identify the properties by which a set of objects, organisms or events could be ordered.
- Select a sequential order for each property within a set of objects, organisms or events.
- Identify the properties on which a given classification system is based.
- Use observable properties to classify a set of objects, organisms or events.
- Place an object, organism or event into a classification system

Experiment

- Arrange the steps of a scientific problem in proper sequential order.

Interpret

- Identify and report data in appropriate method when given an experimental procedure or information.
- Predict data points not included on a given graph.
- Interpret line, bar and circle graphs.
- Select the most logical conclusion for given experimental data.

Communicate

- Describe the properties of an object or event in sufficient detail so another person can identify it.
- Complete an appropriate graph or chart from collected data.

Practice Safety

- Recognize potential hazards within a given activity.
- Practice safety procedures in all science activities.

SCIENCE

Grade 11

Observe and Measure

- Identify the similar or different characteristics in a given set of objects, organisms or events.
- Select qualitative (descriptive) or quantitative (numerical) observations in a given set of objects, organisms or events.
- Identify qualitative and quantitative changes given conditions before, during and after an event.
- Select the appropriate unit to measure objects, organisms or events. (When applicable, use System International units).

Classify

- Identify the properties by which a set of objects, organisms or events could be ordered.
- Select a sequential order for each property within a set of objects, organisms or events.
- Identify the properties on which a given classification system is based.
- Use observable properties to classify a set of objects, organisms or events.
- Place an object, organism or event into a classification system.

Experiment

- Arrange the steps of a scientific problem in the proper sequential order.
- Identify a hypothesis for a given problem.

Interpret

- Select appropriate predictions based on previously observed patterns of evidence.
- Identify and report data in an appropriate method when given an experimental procedure or information.
- Predict data points not included on a given graph.
- Interpret line, bar and circle graphs.
- Identify discrepancies between stated hypotheses and actual results.
- Select the most logical conclusion for given experimental data.

Communicate

- Select an appropriate written description of events depicted by a diagram.
- Describe the properties of an object or event in sufficient detail so another person can identify it.
- Complete an appropriate graph or chart from collected data.

Practice Safety

- Recognize potential hazards within a given activity.
- Practice safety procedures in all science activities.

U.S. HISTORY/GOVERNMENT

Grade 5

Explain the influence of geography on the cultural development of the United States.

- Locate and describe the states, major climatic regions, landforms and bodies of water.

Recognize the sequence of historical events, the role of historical personalities and the impact of these event and personalities on contemporary issues.

- Identify major events of the Revolutionary War period.
- Identify the causes and effects of the Civil War.

Interpret the basic ideals expressed in the historical documents which have contributed to the growth of our nation.

- Identify the reasons for writing the Declaration of Independence and the Constitution.
- Identify the rights and responsibilities of citizens in a democratic society and a free enterprise system.

Locate and interpret information using a broad selection of resource materials.

- Locate information using encyclopedias, almanacs, atlases, dictionaries and literature.
- Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and cartoons.

UNITED STATES HISTORY
Grade 8

Identify the political growth, major events and personalities affecting the development of the United States.

- Identify and analyze major events, causes, effects and the role of significant personalities of the Revolutionary War.

Analyze the creation and judicial interpretations of the historical documents on which our government is founded.

- Examine documents which contributed to the establishment and growth of the United States government.

Identify and describe events, trends, and movements which shaped social and cultural development in the United States.

- Identify all major ethnic groups in the United States (including African Americans, Asian Americans, European Americans, Hispanic Americans, Native Americans) and trace their political, economic and cultural contributions throughout the history of the United States.

- Describe the role of women in the development of the United States.

Analyze events and identify personalities that influenced the development of United States foreign policy.

- Explain how Manifest Destiny determined the territorial expansion of the United States in the Louisiana Purchase, the Texas Annexation, the Mexican Cession and the Oregon Territory.

Identify and describe the characteristics and major factors contributing to the growth of the American economy.

- Describe the growth of the West and analyze its effect on the American way of life.

CIVICS

Grade 8

Identify and explain the basic rights and responsibilities of citizenship.

- Identify individual rights found in the Constitution including its amendments.
- Identify the need for law and government and explain the beliefs on which democratic government is based.

Describe the characteristics of local, state and national governments and how they compare to other governments.

- Identify the interrelationship of federal, state, county and municipal governments.
- Define the concept of separation of powers and describe its effect upon our three branches of government.

Evaluate how the political process works.

- Describe the election process involved in national, state and local governments including the role of political parties in the United States.

Use the skills of critical thinking necessary for analysis of governmental concepts.

- Make a distinction among propaganda, fact and opinion; identify cause and effect relationships; and draw conclusions.
- Interpret and analyze political cartoons, graphs and charts.

The student will describe the ethnic and cultural diversity of the population of the United States.

- Analyze the ways that different ethnic and cultural groups are protected under the Constitution.

UNITED STATES HISTORY

Grade 11

Identify the political growth, major events and personalities affecting the development of the United States.

- Chart the growth of sectional conflict between 1820 and the Civil War: the Missouri Compromise, the Compromise of 1850, the Kansas-Nebraska Act and the Dred Scott Decision.

- Evaluate the significance of the Civil War and Reconstruction.

Identify and describe events, trends and movements which shaped social and cultural development in the United States.

- Analyze social reform movements including the organized labor movement which began during the late nineteenth century.

- Describe social events and identify significant personalities which contributed to the advancement of civil and human rights.

- Recognize major ethnic groups in the United States (including African Americans, Asian Americans, European Americans, Hispanic Americans, Native Americans) and their political, economic and cultural contributions throughout the history of the United States.

- Decribe the role of women in the development of the United States.

- Recognize contributions of citizens of the United States in the fine arts and humanities.

Analyze events and identify personalities that influenced the development of United States foreign policy.

- Identify and analyze the major events leading to emergence of the United States as a world power.

- Recognize the events leading to the involvement of the United States in World War I and analyze the effects of the war.

- Analyze the causes and effects of World War II.

- Describe the involvement of the United States in major international incidents and military conflicts of the postwar era.

Identify and describe the characteristics and major factors contributing to the growth of the American economy.

- Recognize the economic conflict between the industrial North and the agrarian South which led to the Civil War.

- Analyze the growth of the West and its effect on the American way of life.

- Measure the impact of the Industrial Revolution on the United States.

- Analyze the causes and effects of the Great Depression.

- Identify the changing role of government through New Deal policies to the present.

GOVERNMENT

Grade 11

Analyze the relationship of the political process to the individual as a citizen of the state and the nation.

- Identify the historical and philosophical development of government as an institution.
- Analyze the characteristics and functions of political parties in the United States from their inception to the present.

Identify and explain the rights and responsibilities of citizens of the United States.

- Identify individual rights found in the Constitution including its amendments.

Describe the characteristics of local, state and national governments and how they compare to other governments.

- Analyze the United States Constitution, the documents which preceded its adoption and the evolving interpretations of the Constitution.
- Explain the role of the executive, legislative and judicial branches of government at the federal, state and local levels.
- Explain the concept of separation of powers, including checks and balances, and its importance in a democratic system.

Analyze how the political process works.

- Describe the electoral process.

GEOGRAPHY

Grade 5

Explain the influence of geography on the cultural development of the United States.

- Locate and match the states with their climatic regions, landforms and bodies of water.
- Analyze how geography affects political, economic and cultural development.
- Compare and contrast how human and natural resources affect all aspects of American life.

Recognize the sequence of historical events, the role of historical personalities and the impact of these events and personalities on contemporary issues.

- Sequence the major events in the territorial expansion of the nation in the nineteenth century.

Identify the cultural and ethnic groups which have contributed to America's heritage.

- Identify people who made major contributions to the development of the United States.
- Locate and analyze the geographic areas in the United States populated by various ethnic groups.

Locate and interpret information using a broad selection of resource materials.

- Locate information using encyclopedias, almanacs, atlases, dictionaries and literature.
- Interpret various pictorial sources of information such as maps, graphs, charts, globes, pictures and cartoons.

GEOGRAPHY

Grade 8

Identify and describe the physical patterns and processes of the biosphere, the layer of the earth in which life exists.

- Identify forces beneath the crust that shape the earth, explaining the processes and agents that shape the physical features on the earth.
- Identify various biomes (the community of plants and animals that live in a particular climate) of the world.
- Determine the major weather phenomena of the world and the effect of latitude, elevation, prevailing wind and proximity to bodies of water on climate.

Assess the impact of humans on the biosphere.

- Give an example of the effects of industrialization and transportation on the environment.

Locate and describe global culture patterns.

- Describe common characteristics of the major regions of the world: United States and Canada, Latin America, Europe and the former Soviet Union, North Africa and the Middle East, Sub-Saharan Africa, South Asia, East Asia, Southeast Asia and Oceania.
- Analyze demographic and cultural characteristics of the major regions.
- Compare and contrast the ways of living in developed and developing countries relative to economic, political and technological systems.

Analyze contemporary world issues.

- Identify the major natural resources that support industrial societies and describe their world distribution, international trade patterns and future availability.
- Compare and contrast population growth rates of industrialized and nonindustrialized countries.
- Recognize ethnic diversity within political units and major cultural regions.

Identify and use maps, graphs and statistical sources.

- Identify and draw conclusions from different kinds of maps, charts, graphs or pictorial materials based on geographical data.
- Identify and locate the fifty states of the United States, capitals, major cities and countries of the world.
- Identify basic landforms and water bodies, given definitions or pictorial representations.

Read and interpret geographic information, using a variety of sources, and communicate that information in both written and oral form.

- Evaluate different solutions to geographic problems.

GEOGRAPHY

Grade 11

Identify and describe the physical patterns and processes of the biosphere, the layer of the earth in which life exists.

- Distinguish the forces beneath the crust that shape the earth, explaining the processes and agents that shape the physical features on the earth.
- Identify and locate various biomes (the community of plants and animals that live in a particular climate) of the world.
- Assess and make inferences regarding the major weather phenomena of the world and the effect of latitude, elevation, wind and proximity to bodies of water on climate.

Assess the impact of humans on the biosphere.

- Evaluate the impact of human population on atmospheric changes.
- Assess the effects of industrialization on the environment.

Locate and describe world culture patterns.

- Describe common characteristics of the major regions of the world: United States and Canada, Latin America, Europe and the former Soviet Union, North Africa and the Middle East, Sub-Saharan Africa, South Asia, East Asia, Southeast Asia and Oceania.
- Analyze demographic and cultural characteristics of the major regions.
- Distinguish between the ways of living in developed and developing countries relative to economic, political and technological systems.

Analyze contemporary world issues.

- Evaluate the major natural resources that support industrial societies and describe their world distribution, international trade patterns and future availability.
- Analyze the difference between the population growth rates of the industrialized and nonindustrialized countries of the world.
- Compare the basic principles of democracy in the context of current world events.

Identify and use maps, graphs, and statistical sources.

- Draw conclusions from different kinds of maps, charts, graphs or pictorial materials based on geographical data.
- Identify and locate the fifty states of the United States, capitals, major cities and countries of the world.
- Identify basic landforms and water bodies, given definitions or pictorial representations.

Read and interpret geographic information, using a variety of sources, and communicate that information in both written and oral form.

- Analyze data about geography from a variety of sources.

THE ARTS: Visual Art and General Music
(Culture and the Arts)
Grade 5

Visual Art

- Demonstrate knowledge of a beginning art vocabulary.
- Compare works of art with respect to the material and process used to create them.
- Distinguish the principles of design in works of art: rhythm, balance, contrast, movement, variety, center of interest and repetition.
- Distinguish the elements of design in works of art: line, color, form, shape, texture and space.
- Identify uses of visual art in an historical and cultural context.

General Music

- Identify conducting patterns for songs in simple meter.
- Recognize and interpret basic notational symbols (written).
- Identify appropriate notation groupings for a given meter.
- Identify appropriate markings, indicators and/or symbols for tempo (speed), timbre (sound quality), dynamics (degree of loudness) and phrasing in music.
- Recognize and identify, orchestral instruments and voice classification (e.g., soprano, tenor, bass, etc.).
- Identify a variety of major composers and music, and make historical connections (styles, periods and cultures) to the music.

THE ARTS: Visual Art and General Music
(Culture and the Arts)
Grade 8

Visual Art

- Analyze and begin to evaluate the principles of design: rhythm, balance, contrast, movement, variety, center of interest and repetition in works of art.
- Analyze and begin to evaluate the relationship of the elements of design: line, color, form, shape, texture and space in works of art.
- Compare works of art which are similar in expressive quality, composition and style.
- Recognize and describe the cultural and ethnic traditions which have influenced the visual arts.
- Compare and contrast the development of art throughout history.
- Analyze and demonstrate knowledge of the uses of the visual arts in today's world, including the popular media of advertising, television and film.

General Music

- Recognize short, well-known melodies from notation (written).
- Use an appropriate vocabulary of musical terms to analyze and describe music.
- Compare and contrast music from a variety of styles, periods and cultures.
- Identify a variety of major composers and music, and make historical connections (styles, periods and cultures) to the music.

THE ARTS: Visual Art and General Music

(Culture and the Arts)

Grade 11

Visual Art

- Identify relationships between a work of art and the cultural context in which it functions.
- Describe the philosophy underlying several major art movements or historical periods.
- Compare major cultural and ethnic art forms throughout the world, which have influenced the visual arts.
- Analyze the interrelationship of the elements and principles of design in works of art.

General Music

- Demonstrate a knowledge of a varied repertoire (selections) of folk, ethnic, classical and contemporary (pop) music.
- Visually identify a variety of electronic, orchestral and other acoustic instruments.
- Identify by name and function standard notational symbols (written representation of music) for pitch, rhythm, articulation and dynamics.
- Recognize historical connections to various major composers representing a variety of musical styles, periods and cultures.
- Recognize and compare variations in tempo (speed), timbre (sound quality), dynamics (degree of loudness) and phrasing in music for expressive purposes.

Glossary

GLOSSARY

aerobic *(Physical Education)* an activity using oxygen. Aerobic involves activities that can be performed for at least ten minutes without developing a lack of oxygen.

aerobic endurance *(Physical Education)* activity that is steady and at a pace at which the heart can supply as much oxygen as the body needs for a specified length of time.

aesthetic, aesthetic structure, aesthetic quality *(The Arts)* traits that may be identified as contributing to the artistic arrangement of something seen or heard.

affix *(Language Arts)* an element added to the base, stem, or root of a word to form a fresh word or stem. Principal kinds of affix are prefixes and suffixes. The prefix *un-* is an affix which added to balanced, makes unbalanced. The suffix *-ed* is an affix which, added to wish, makes wished.

algorithm *(Math)* step-by-step procedure for solving a problem.

alliteration *(Language Arts)* a device commonly used in poetry and occasionally in prose: the repetition of an initial sound in two or more words of a phrase, line of poetry or sentence ("Our souls have sight of that immortal sea.").

analysis (see Levels of Thinking, page 173)

application (see Levels of Thinking, page 173)

aquatics *(Physical Education)* water safety, activities and sports.

archetype *(Language Arts)* a descriptive detail, plot pattern, character type, or theme that recurs in many different cultures. One such archetype that appears in Shakespeare's *Macbeth* is the battle between the forces of good and the forces of evil.

attribute *(Math)* characteristics (e.g., size, shape, color, weight).

aural *(The Arts)* relating to the sense of hearing, listening.

capacity *(Math)* the volume of a solid in terms of liquid measure (e.g., 1 cup).

cardiovascular fitness *(Physical Education)* ability of the heart, lungs and circulatory system to supply the nutrients necessary for prolonged work or activity.

combatives *(Physical Education)* activities and sports placing opponents against each other (e.g., fencing, self defense).

composition *(The Arts)* arrangement of various elements into artistic form, such as a drawing or written piece of music.

comprehension (see Levels of Thinking, page 173)

Computer Assisted Instruction (CAI) *(Instructional Technology)* the use of computers to assist, support and enhance academic instruction appropriate to individual grade level.

conceptual ideas to abstract procedures *(Math)* instructional strategy to enhance learning by using everyday experiences and/or tangible objects to explain concepts in symbolic form (e.g., one broken egg in a dozen can be represented as the number 1/12).

context *(all academic areas)* the use of information from the immediate passage in which a word or group of words occur. This includes surrounding phrases, words, sentences and syntax that might be used to help determine the meaning and/or pronunciation of the word or group of words in question.

creative movements ***(Physical Education)*** movements or combinations of movements created by the individual to express or demonstrate.

criterion-referenced test ***(Student Assessment)*** the criterion-referenced test (CRT) is designed to measure specific skills and knowledge. Except for commercially produced CRTs, the objectives measured in this form of test are most often written by the test user. Scores on CRTs are interpreted in a way that compares an individual student's performance with a predetermined proficiency level (e.g., *per objective* percent of test items answered correctly).

Directed Listening Thinking Activity (DLTA) ***(Reading)*** a listening activity in which the primary objective is to develop skill in listening and thinking. The teacher's role is to read a selection aloud and guide the students to ask questions, make predictions and validate or reject their predictions.

Directed Reading Thinking Activity (DRTA) ***(Reading)*** a reading activity in which the primary objective is to develop skill in critical reading. The teacher's role is to guide students through a reading selection to help them ask questions, make predictions and validate or reject their predictions. The strategy would be taught over a period of time as the teacher gradually reduces guidance until the students begin to use the strategy independently.

directionality ***(Reading)*** the ability to use the correct spatial orientation for reading: left to right, top to bottom and front to back.

estimate *(Math)* use of rounded numbers in computation (e.g., planning a budget).

etymology ***(Language Arts)*** (1) the study of the origins of words; (2) an account of the history of a particular word

evaluation (see Levels of Thinking, page 173)

evaluative comprehension *(Reading)* the ability to judge information according to criteria and offer supporting opinions and evidence.

explore ***(Math)*** to introduce a skill, not expecting mastery by all students.

expository ***(Reading)*** a reading or writing selection which explains, defines and interprets. It covers all compositions which do not primarily describe an object, tell a story or maintain a position (e.g., content area textbooks, magazine articles, editorials, essays).

expressive quality, expressive purpose ***(The Arts)*** communication of sentiment or mood through visual art, voice or musical instrument.

figurative language ***(Reading)*** writing or speech not meant to be taken literally. Writers use figurative language to express ideas in vivid or imaginative ways (i.e., "the apple of my eye", "forever chasing rainbows").

fluency ***(Reading)*** the ability to read without word recognition errors which would hinder the reader's understanding of the passage.

format ***(Information Skills)*** the shape, size and general organization of an item; a specified form or style.

genre ***(Information Skills)*** a category of artistic, musical or literary composition characterized by a particular style, form or content.

hyperbole ***(Language Arts)*** obvious and deliberate exaggeration; an extravagant statement; a figure of speech not intended to be taken literally. Hyperboles are often used for dramatic or comic effect.

inferential comprehension ***(Reading)*** the process of getting meaning from a reading passage by which the reader must "read between the lines" to understand a concept that was not directly stated.

Informal Reading Inventory (IRI) ***(Reading)*** a measurement tool used to determine students' independent, instructional and frustration reading levels. Such reading levels are used to achieve accurate placement in instructional materials. The IRI begins with an *oral reading* administration of a sight-word list. The results of this test are then used to place the student in the appropriate level of a set of paragraphs to be read orally. The student reads through the paragraphs—arranged in increasing levels of reading difficulty—until he or she reaches frustration reading level. A comparison of oral and silent reading performance levels may be obtained through extended use of this kind of test.

Integrated Learning System (ILS) ***(Instructional Technology)*** computer application that combines curriculum, allowing students to progress at their own pace, challenging brighter students and reinforcing others, and helps teachers find a student's true ability in many curriculum areas.

International System of Units (SI) ***(Science)*** this system consists of seven basic units (reference chart below) and other units derived from them. It was adopted in 1960 by the General Conference on Weights and Measures.

SI Fundamental Units:

Quantity	Unit	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Temperature	kelvin	K
Amount of substance	mole	mol
Electric current	ampere	A
Luminous intensity	candela	cd

K-W-L Charts ***(Reading)*** a reading thinking strategy which directs the student to ask questions and think about ideas as they read. The goal of the strategy is to aid in comprehension and develop critical thinking. The title refers to the three principal components of KWL: recalling what is *known* about a selection which the students will read; determining what students *want* to learn about the selection; and after the selection has been read, identifying what has been *learned*. The information can be charted in three columns on chalk board or paper. The strategy should be taught over a period of time as the teacher gradually reduces guidance until the student begin to use the strategy independently.

knowledge (see Levels of Thinking, page 173)

Literacy Passport Test ***(Student Assessment)*** Oklahoma's *Literacy Passport Tests* will consist of the mandated criterion-reference tests for 8th grade Mathematics, Science, Reading and Writing. Individual Literacy Passport tests failed must be retaken by students as needed in Grades 9-12. A student who does not pass all four *Literacy Passport Tests* before graduation will not receive the regular high school diploma.

literal comprehension ***(Reading)*** understanding a passage without making inferences.

locomotor skills ***(Physical Education)*** self-propelling the body from one space to another (e.g., running, walking, leaping, jumping, hopping, dodging, rolling).

manipulatives ***(Math)*** concrete materials (e.g., buttons, beans, egg and milk cartons, counters, attribute and pattern blocks, interlocking cubes, base10 blocks, geometric models, geoboards, fraction pieces, rulers, balances, spinners and dot paper) to use in mathematical calculations.

manipulative skills ***(Physical Education)*** giving force to objects (throw, kick, strike, volley) or gaining control of objects (catching) or maintaining control of objects (dribbling).

measurement of P.A.S.S. *(Student Assessment)* the skills and areas of knowledge represented by P.A.S.S. statements may be measured in many ways other than through criterion-referenced tests (CRTs) and normed-referenced tests (NRTs). Design and use of teacher-made tests which feature demonstration of knowledge and skills in ways other than the "pencil-and-paper" test are encouraged. Such teacher-made tests may be designed in a variety of formats, and are most appropriately administered in the format which most effectively measures the specific skills and knowledge being taught at the time.

media, medium *(The Arts)* materials, supplies and techniques used to make visual art.

multicultural *(Physical Education)* pertaining to various cultures.

multimedia *(Instructional Technology)* combination of video, sound, graphics, text and computers into a presentation format.

narrative *(Reading)* a reading or writing selection which tells a story (e.g., fables, fairy tales, legends, tall tales, short stories, novels).

neologism *(Language Arts)* a newly coined word, phrase or expression.

nonlocomotor skills *(Physical Education)* balancing skills. Moving the body in a stationary space (e.g., balancing, bending, stretching, twisting, swinging).

norm-referenced test *(Student Assessment)* the norm-referenced test (NRT) is designed to measure skills and knowledge represented by learning objectives. Most NRTs are commercially produced, with objectives being developed by the test publisher. Scores on NRTs are interpreted in a way that compares an individual student's performance with average performance of the class, school site or district or with some exterior group such as the state or a national norm group.

notate, notation *(The Arts)* representation of musical tones by means of written characters.

onomatopoeia *(Language Arts)* the formation and use of words that suggest by their sounds the object or idea being named: bowwow, bang, buzz, crackle, clatter, hiss, murmur, sizzle, twitter, zoom.

operation *(Math)* addition, subtraction, multiplication, division, etc.

ordinal *(Math)* a number that is used to tell order (e.g., first, fifth).

permutation *(Math)* an arrangement of a set of objects in a particular order (the letters a,b,c have the following permutations: abc, acb, bac, bca, cab, cba).

perspective *(The Arts)* in visual art, the technique of representing distance or depth on a flat surface.

phonics *(Reading)* a word recognition technique that stresses letter-sound relationships, especially in beginning reading instruction.

pictorial *(The Arts)* illustrated by pictures or visual images.

portfolio *(The Arts)* in visual art, a collection or sampling of art work such as drawings, paintings, etc.

prediction strategy *(Reading)* a person's use of knowledge about language and the context in which it occurs to anticipate what will happen or what will be included in the passage.

real-world *(Math)* any applications of mathematical uses (e.g., balancing a checkbook, calculating interest on loan, determining average velocity of a rocket, estimating the age of a fossil using carbon dating).

repertoire (The Arts) a variety of musical pieces available for performance.

structural analysis *(Reading)* a word identification technique for breaking down a word into its pronunciation units. Structural analysis units commonly taught are prefixes, suffixes, root words, compound words, inflected endings (s, ed, ing, ly, etc.), contractions and syllabication rules.

synthesis (see Levels of Thinking, page 173)

trade book *(Reading)* any book other than a textbook (e.g., a library book).

transcendental *(Math)* functions that are not algebraic (e.g., trigonometric, logarithmic, exponential).

transformation *(Math)* motion of a geometric figure [rotation (turn), translation (slide) and reflection (flip)].

two-dimensional *(The Arts)* a flat surface, such as a drawing or painting; **three-dimensional** can be viewed from multiple sides, such as sculpture.

Bloom's Taxonomy
Levels of Thinking
(all academic areas)

knowledge - recalls specific information; identifies, names, defines, lists
(Demonstration of *knowledge*: tell, recognize, locate, memorize, review, match, state, read, relate reproduce, choose).

comprehension - interprets communicated material without necessarily relating it to other material; explains, summarizes, converts
(Demonstration of *comprehension*: restate, describe locate, generalize, review, match, change, paraphrase, give main idea, reproduce).

application - use information in different situations; demonstrates, computes, solves, modifies, arranges, operates, relates
(Demonstration of *application*: show, apply, make, translate, illustrate, record, teach, construct, use, practice, determine).

analysis - breaks down information into parts; differentiates, diagrams, estimates, separates, infers, orders, subdivides
(Demonstration of *analysis*: summarize, abstract, classify, dissect, compare, contrast, deduce, analyze, investigate, distinguish, categorize, examine).

synthesis - puts pieces of information together into a new plan, idea, or product; combines, creates, formulates, designs, composes, constructs, rearranges, revises
(Demonstration of *synthesis*: hypothesize, imagine, modify, improve, invent, propose, infer, estimate, produce, forecast, design, predict, plan).

evaluation - judges information according to criteria and offers supporting opinions and evidence; critiques, compares, justifies, concludes, discriminates, supports
(Demonstration of *evaluation*: editorialize, decide, evaluate, dispute, rate, discuss, verify, grade choose, assess, select, debate, appraise, defend).